

A NEW EARTH

AND A

NEW UNIVERSE

Rodney Bartlett

Brief biography

G'day from the Land Down Under! To be exact: from a town called Stanthorpe, which is in the southern part of the state Queensland, in Australia. I'm a guy who was born in this town in 1956. At age 15, I left High School to become an apprentice printer at the local newspaper. In the 1990s, I had a regular column in a desktop-published magazine called "Inspire". This gave me an opportunity to express the ideas I've also presented here and filled me with great satisfaction. I decided to quit Inspire in 2000, for personal reasons. Of course, many of the thoughts in this book have received further development since my Inspire days - most are even totally new. With Inspire, these writings of mine were offline. In 1999, they went online when my computer-whiz brother Darryl set up a website for me (I called it "Rod's Room"). This book is also dedicated to the other immediate members of my family - Dad, Mum, and sister Allison; my extended family; and everyone I've ever met, for giving me good memories and learning experiences. After 3 years, I changed my Internet Service Provider in an attempt to escape the spammers. That turned out to be Mission Impossible ... and I managed to lose my website in the process (the old ISP deleted it). I've been writing this book since the 1970s and it's a total obsession with me. At first my ideas were few and far between but they developed into short articles within a few years and a little paperback in 2006 (at the time I figured getting a POD - Print On Demand - publisher to print my ideas was the only way I'd ever get published). In the last 3 years, my ideas have taken off like wildfire and

my simple goal is to share them.

Outline

Imagination is more important than knowledge...

Albert Einstein

German physicist (1879-1955)

In this quote, Einstein isn't speaking of fantasy, but of applying scientific knowledge in an imaginative way (maybe it would be better to say "imagination is just as important as knowledge"). Anyway, the following might be dismissed as too speculative because it isn't written in mathematical equations and its conclusions can't be verified in a laboratory. But if you think imagination applied to science can teach us new things, read on ... and enjoy!

These writings mention universal unification that is far more comprehensive than today's scientific and mathematical attempts to find a "Grand Unified Theory". A few lines from the poem about Kal-el/Clark Kent/Superman make it clearer by what I mean when I say "more comprehensive" -

"Kal-el left for the rainbow's end in the 44th century,

Where he met a young woman named Kari.

Science had combined all forces but gravity in the Grand Unified Theory,
Then added gravity to the previous 3* to form the Unified Field Theory.
Clark's idea of energy pulses transformed into the idea of zero separation
Between objects in space-time (the revolutionary UFT 2nd version).
So he and Kari (and the rest of the world) are each other, in fact;
Just as UFTv2 unites the Relativist and Quantum Mechanic."

* electromagnetism (the relations between electricity and magnetism) + the strong and
weak nuclear forces of the subatomic world

They also mention a possible way out of the global financial crisis, health and
medicine/surgery, Mobius loops, dark matter, superstring theory, fractal geometry,
motion, light and electromagnetism, quantum mechanics, other universes, the Big Bang
and Steady State theories, dark energy, evolution, Darwin, Einstein, Newton, magic, time
travel, ghosts, Frankenstein, Doctor Who, Star Trek, computer science, holographic
technology, God, Intelligent Design, Hinduism, a couple of possible ways to attain world
peace, include poetry and a short story, etc ... the book's wide-ranging because it uses
scientifically-applied imagination to unify these concepts.

It seems to me that every generation throughout history has decided the world cannot
progress significantly beyond the achievements of their generation. The present
generation might, for example, sincerely believe there can't be any progress beyond the
current understanding of science's Grand Unified Theory or that current scientific method

is infallible. I respectfully disagree and it's my goal, by means of the science and curiosity and imagination (not fantasy) in my writings, to show everybody that there is still so much progress to be made that the whole world will be busy for thousands (if not millions) of years yet.

The philosophers living in ancient Greece about 2,500 years ago amaze me because they seem to have arrived at similar conclusions to those presented in this book without the benefit of 21st century science. Maybe that demonstrates what can happen when, as I believe, we all live in a unification where there is no separation between anything in time or in space (including on Earth). In Ecclesiastes 1:9, your Bible states: "The thing that hath been, it is that which shall be; and that which is done is that which shall be done; and there is no new thing under the sun" - King James Version. I'll elaborate on the Greek philosophers in the section called "The Real Thing". Publishing this book might prove useful by showing how modern science can validate the thoughts of ancient Greek philosophers such as Parmenides, whose "argument from thought and language to the world at large" was described in the following way by British mathematician and philosopher Bertrand Russell (1872-1970) in his book "A History of Western Philosophy": "It cannot of course be accepted as valid ..."

Also, in relation to this book, the predictions of inventor and futurist Raymond Kurzweil are fascinating. According to Wikipedia, he suggests "With the entire universe made into a giant, highly efficient supercomputer, AI and human hybrids (so integrated that, in truth it is a new category of "life") would have both supreme intelligence and physical control

over the universe. Kurzweil suggests that this would open up all sorts of new possibilities, including abrogation of the laws of Physics, interdimensional travel, and a possible infinite extension of existence (true immortality).” On this last point, I first read about the downloading of minds for the purpose of attaining immortality over 20 years ago in a now-discontinued science magazine (either “Omega Science Digest” or “Omni”) reporting on the robotics and artificial-intelligence work of American Hans Moravec.

Also fascinating are the references to Underlying Existence in John Dobson’s recent book “The Moon Is New” (Dobson invented the term Zero Separation which this book refers to) and the conclusions in two recent books by American mathematician and physicist Frank Tipler – “The Physics of Christianity” and “The Physics of Immortality”. In these, he says physics proves God’s existence, can justify the resurrection of the dead and the spiritual body (which I call the Backup in “Part 3 Into Paper Walls”), and that godlike intelligences will grant you and I immortality. And my fascination continues ... even as I’m putting the finishing touches on this book, I read a very short adaptation in the science magazine Discover of the May 2009 book “Biocentrism: How Life and Consciousness Are the Keys to Understanding the True Nature of the Universe” by Robert Lanza with Bob Berman. They say life – particularly consciousness – creates time, space and the cosmos itself: without us, the universe could not exist. They say things this book agrees with – “... time does not exist independently of the life that notices it”, “... space is neither physical nor fundamentally real in our view”, “In daily life, space and time are harmless illusions” and “Quantum theory even casts doubt on the notion that distant objects are truly separated ...” These statements sound like similar

conclusions to my explanations of a “spaceless and timeless reality that appears to include space, time and distance but these are actually illusions created, in an immediate sense, by the cosmic computer-generated hologram* and, in the ultimate sense, by an intelligence and consciousness that pervades the universe and is related to the minds of humans”. While “Biocentrism” says consciousness creates the universe, it unfortunately cuts out the middle man and does not, as far as I know, mention a computer-generated hologram.

* Wikipedia, the free online encyclopedia says, “British software developer, physicist and mathematician Stephen Wolfram’s conclusion is that the universe is digital in its nature, and runs on fundamental laws which can be described as simple programs: cellular automata. He predicts a realization of this within the scientific communities will have a major and revolutionary influence on physics, chemistry, biology and the majority of the scientific areas in general.” In “The Atlantic Monthly” for April 1988, journalist Robert Wright says U.S. computer scientist and physicist “Ed Fredkin thinks that the universe is a computer. According to his theory of digital physics, information is *more* fundamental than matter and energy. He believes that atoms, electrons, and quarks consist ultimately of bits—binary units of information, like those that are the currency of computation in a personal computer or a pocket calculator.” And it is stated by <http://www.spaceandmotion.com/Physics-David-Bohm-Holographic-Universe.htm> (part of one of the top philosophy sites on the Internet) that the British quantum physicist David Bohm (1917-1992) asserted that the tangible reality of our everyday lives is really a kind of illusion, like a holographic image. Underlying it is a deeper order of existence, a

vast and more primary level of reality that gives birth to all the objects and appearances of our physical world in much the same way that a piece of holographic film gives birth to a hologram. Bohm calls this deeper level of reality the implicate (which means enfolded or hidden) order, and he refers to our own level or existence as the explicate, or unfolded order. Bohm is not the only researcher who has found evidence that the universe is a hologram. Working independently in the field of brain research, Stanford neurophysiologist Karl Pribram has also become persuaded by the holographic nature of reality. He says that the human brain can be modeled as a hologram. Capitalizing on Pribram's findings, Bohm states that our brains are smaller pieces of the larger hologram. That our brains contain the whole knowledge of the universe. So, you can see how each mind has a limited perspective of the universal hologram. Our brains are our windows of perception. Each mind always contains the whole picture, but with a limited and unclear perspective. We each have different experience in our lives, but each perspective is valid. Our brains mathematically construct objective reality by interpreting frequencies that are ultimately projections from another dimension, a deeper order of existence that is beyond both space and time.

I think the universe is like a computer game full of simulated worlds with simulated people living on them in seemingly separate times. It will be created by humans and our extraterrestrial descendants in the future (see Gates>STARGATE). This book deals with 2 methods for creating the universe that are complementary – one using lasers and producing a hologram (whose digitization depends on the programming of its photons and other parts by the second procedure's QM-SCN), another which doesn't use lasers

but concentrates on a Quantum-Mechanical SuperComputer Network whose simulation of worlds and people is displayed on the universal hologram (see “The Real Thing”). Holograms we’re familiar with only result from visible light. But later we’ll see that the word light can be applied to any form of electromagnetic radiation. Superimposing various frequencies in an object might cause them to stimulate not just our eyes but also nerves involved in perception of touch, temperature, smell, etc. This would make any object appear solid and to have mass* – it could even affect any scientific instrument e.g. detectors of electric, magnetic or gravitational fields. And objects in the universal hologram would not only include the screens of our computers, TVs and mobile phones but every physical and nonphysical part of the universal hologram would be a receptor for the downloading of data from the Quantum Supercomputer (in other words, a “screen” for invisibly displaying data). As “Teleporting to Stargate” states, information can be transferred from atoms (in this case, of the quantum supercomputer) to light (the universal hologram) then again to atoms (in the case proposed in “The Real Thing”, of the supercomputer via a feedback loop).

* For decades scientists have theorised the existence of a particle, called the Higgs boson, that explains how other particles acquire mass. The Higgs boson is believed to produce a field that interacts with particles and gives them a property we interpret as mass, explains Dr Kevin Varvell, of the University of Sydney in Australia. Dr Aldo Saavedra, a particle physicist also at the University of Sydney, made this comment as colleagues at the European Organization for Nuclear Research (CERN), near Geneva, switched on the Large Hadron Collider - "It would be really nice if nature actually provided some

very puzzling thing that theories haven't actually thought of." In September 2008, renowned British astrophysicist Professor Stephen Hawking bet US\$100 that the LHC experiment would not find the Higgs boson. "I think it will be much more exciting if we don't find the Higgs. That will show something is wrong, and we need to think again," says Hawking. Another aspect relating to matter's appearance of possessing solidity and mass is - Morpho butterflies create colour by selectively adding and deleting certain wavelengths of light. Physicists have only recently devised comparable materials, called photonic band-gap crystals; and are now exploring their use in phone switches, solar cells and antennas. No surprise, then, that some engineers are looking to the living world for the next generation of optic inspirations. I believe advances in engineering and biology will enable humans, like the morpho butterfly, to selectively add and delete certain wavelengths of light. But the previous paragraph showed how anything and everything can be regarded as light (by e.g. superimposing electromagnetic and gravitational waves). So the day will come when we can add or delete wavelengths anywhere we choose, and there will be absolutely no limits to what a human can do! However, it is good to remember that we will never be gods or goddesses because the rest of the universe is also included in this unification. I anticipate people will oneday have band-gap structures in their brains that are no bigger than a computer chip (see "Gates>STARGATE" where it's proposed that these won't require surgical implantation because of the pre-existing digital nature of all parts of the universe). Photonic band-gap crystals would, of course, only deal with light in its photonic forms (energy forms such as visible light or radio waves). The band-gap structures I have in mind would need to deal with forms like matter, so they could add or delete anything and everything we choose. They might accomplish this

by acting similarly to a modem that acts on a scale trillions of times smaller than a modem manufactured by nanotechnology, and would be capable of manipulating digitised matter. Then they could emulate computers' copy/paste function to add things; as well as their delete function, to remove things. This ability must only come to fruition in a future, ideal society: it would only be wasted and abused in the present warring and selfish world!

The universe (megauniverse) would thus be co-created from 1) computer code written in a 5th dimension and written from what we know of nature and science as well as history, plus 2) lasers and holographic projection into the 3+1 dimensions we call space-time. We will thus create a home – the universe – for ourselves and it will, of course, be perfectly tuned to our needs. This entire universe will, being a computer simulation, be filled with advanced artificial intelligence (AI) and consciousness – and since there is no separation or distance of any kind in its unification, also be filled with human/humanoid intelligence, personality and consciousness. Our consciousness and the advanced artificial intelligence will thus be merged and identical. Erwin Schrodinger (1887-1961), the Austrian theoretical physicist who achieved fame for his contributions to quantum mechanics and received the Nobel prize in 1933, had a lifelong interest in the Vedanta philosophy of Hinduism (as does U.S. astronomer John Dobson) and this influenced Schrodinger's speculations at the close of his 1944 book "What is Life?" about the possibility of individual consciousness being only a manifestation of a unitary consciousness pervading the universe.

Though humans have a very special potential which will, I believe, see us use our inbuilt

creativity to oneday produce universes and ourselves and perform other so-called miracles; this is, in the end, just another book proclaiming that God created us and the universe. This apparent contradictory statement is resolved easily by noting that this book makes 4 points - a) it attempts to use science to demonstrate how people could create the universe and ourselves, b) it tries to show scientifically that there truly is a God – who is the total of everything in the universe, from consciousness and personality to a cluster of galaxies to a person ... to a grain of sand ... to an atom ...to a ray of light or a magnetic or gravitational field (with the One's consciousness capable of “downloading” into any component physical form, type of energy or force), c) finite humans are united with God via the universe's Unified Field (which embraces zero-separation), and d) therefore, saying “we created the universe and ourselves” is another way of saying “God created the universe and us” – the religious writer and broadcaster Herbert W. Armstrong (1892-1986) would have phrased this apparent contradiction as “God is reproducing himself through mankind” since he taught that the true message Jesus brought to the world was that mankind's destiny is to become God.

The above 4-fold resolution is by no means easy to accept since it relies on us coming to terms with the time we live in announcing that separateness in any form is an illusion; and with the great English writer William Shakespeare (1564-1616) not merely being poetic or entertaining when he said in his play “Hamlet”, “There are more things in heaven and earth, Horatio, Than are dreamt of in your philosophy.” Being human and being God are thought provoking conditions – just like my writing of this book. On one hand, I of course know beyond any doubt that I'm the author. On the other hand – the

more I write, the more I wonder how the ideas it contains could ever have entered my head. But there mightn't be any mystery here - there might be a simple answer.

The ideas are overwhelming and very puzzling to me if I regard the world as 4-dimensional and limited to the way things appear to my bodily senses and personal experiences. But I've been adapting for decades to the idea that a 5th dimension truly exists in the world and universe; and that it is responsible for universal unification and the zero separation of all things (as well as the parts of each thing) on Earth, in space and in time. I now accept the concept totally, and belief in it is fundamental to who I am. It's part of my everyday thinking and it's now impossible for me to believe, as I once did, that things actually are restricted to the way they appear (every object and event now has an underlying existence in my mind). I believe every idea in this book flows perfectly naturally from my conviction, and the accumulation of facts and theories to support my conclusions has merely been an attempt to further convince myself that my ideas are, in fact, realistic. I've satisfied myself ... when you've absorbed this whole book, only you can know if I have satisfied you, my reader.

In any event, I'm becoming more and more convinced that the book truly exists already and was just waiting for somebody – anybody - to come along and press all the right keys on a computer keyboard. I guess this conflict between knowing I'm the author and thinking the book already exists can be resolved by time's loops and curves and warps. I read somewhere that the famous Austrian composer of classical music Wolfgang Mozart (1756-1791) also experienced the feeling of his compositions being already written – and

I've heard that Paul McCartney had the same feeling when he wrote the Beatles' song "Yesterday" back in the 1960s. As the 1968 song "Master Jack" (by the South African band 4 Jacks and a Jill) said, "It's a strange, strange world we live in".

All this - from ancient Greece (and long before) to the books of century 21 – quite amazes me. And no doubt there are many more amazing ideas out there ... ones I'm not familiar with in the least. Combine all this with the previous century's development of Einstein's Relativity, quantum mechanics, electronic computers, space travel, holography and the Internet. It makes me wonder if this time we live in really could be "the time of unveiling or revelation" history has supposedly been leading up to.

A NEW EARTH AND A NEW UNIVERSE

Part 1 Into Paper Walls

I've called this first section "Part 1 Into Paper Walls" after the 1969 Australian hit record "Part 3 Into Paper Walls"; performed by Russell Morris, written by Johnny Young and produced by Ian ("Molly") Meldrum. Another section (Part 2 Into Paper Walls) was written in 2008 and a 3rd section, written in 2009, is called (you guessed it!) Part 3 Into Paper Walls (my idea being that the "paper walls" are the pages of this book).

These are the detailed changes I believe science and evolution will adopt in the future – in some respects, these changes will lead to conclusions similar to those of religious or mystical teachings. In the magazine article "An American Physicist in Venice", Lisa Randall says everyone who is interested in science can participate, and she also says it's important to share ideas about modern physics. Here's my little attempt at participating and sharing. Will you join me?

I'd like to suggest that Charles Darwin's evolution has far greater consequences than either he or any scientist has realized. I believe the theory is not limited to biology, but is absolutely fundamental to the very existence of our universe and everything in it i.e. to cosmology, space-time, physics, mathematics, etc. etc. I wrote these paragraphs after recently reading the comment that dogs can hear x-rays (by the veterinarian Dr. Rachele Lowe), in an attempt to explain how Darwin's ideas are so far-reaching. In a vital way, they even go beyond Albert Einstein's ideas since these paragraphs conclude that a "mutation factor" (also referred to as a "randomness factor") is fundamental to the universe. In other words, Einstein was wrong when he said "God does not play dice with the universe" (he believed there could be no randomness, or mutation, in the fabric of space-time). Now to what I wrote after reading about dogs hearing X-rays:

It's incredibly fascinating to read that dogs can hear x-rays! ("Your Pet" with veterinarian Rachele Lowe - Australia's New Idea magazine - September 17, 2007). This is

fascinating because sound and x-rays are different forms of waves. Sound is called a longitudinal wave and it needs a medium like air to travel through. X-rays are called a transverse or electromagnetic (EM) wave - visible light, ultraviolet or UV rays, and radio waves are other forms of electromagnetism - and don't require air etc. but can travel through empty space.

Sometimes cosmic rays, which are not a type of energy but consist of atomic particles, are also added to illustrations of the EM spectrum in science magazines. This, along with dogs' ability to hear both sound and x-rays, makes me think there must be a sonic-material or SM spectrum linked to the EM spectrum. Science's teaching of Wave-Particle Duality (the idea in Quantum Mechanics that waves have particle properties and particles possess wave properties) reinforces the idea of linked EM-SM spectra. So one day we might be getting the matter waves of our bodies and brains digitised by some sort of modem so we can get "emailed" around the world, through space and through time (which world-famous physicist and mathematician Stephen Hawking says is another form of space). At our destination, other modems would change us back into material girls or guys.

What's an obvious way of linking EM waves with SM waves? By uniting EVERYTHING in this universe of space-time into a hologram. The lasers generating this hologram would have to be combined with a "randomness factor" - which could also be referred to as a "mutation factor" - so you and I would not merely possess a rigidly preprogrammed life in the universal hologram, but would be capable of a degree of free

will. (In computer art, randomness is introduced into the chain of repetitive calculations producing a mountain range so a convincingly rugged image will result.)

Albert Einstein's dream of uniting electromagnetism and gravitation in a Unified Field Theory would come to pass. And it may be future travellers in time (or should I say "future travellers in another form of space") that bring his dream to fruition by taking their universe-creating technology nearly 14 billion years into the past to produce our local branch of a possibly infinite mega-universe. This megauniverse is hinted at by Einstein's equations as well as cosmology's Steady-State theory, which says the universe has always existed and will continue forever. Einstein spoke of a "static" universe (which accurately describes a megauniverse that has no limits in space and has always existed/will continue forever), but he thought of this local branch as static, and called it his greatest mistake since the local universe is now known to have had a beginning and to be expanding. The travellers would also be showing us what Intelligent Design can do centuries or millennia from now.

In about 1980 (and also in his 2008 book, "The Moon Is New – Time Comes In With A Minus Sign"), the implications of Einstein's Special Relativity theory were studied by the American John Dobson (creator of the "Dobsonian" telescope mount, co-founder of the Sidewalk Astronomers Organization). He coined the term "zero separation" to describe Relativity's implications, but describing the universe as a Unified Field or Grand Unification would be just as accurate. Suppose a star we are viewing is at a distance of 100 light years (this can be represented as +100). Since we see nothing as it presently is

but as it was when the light left it, we are seeing the star as it was 100 years ago (represented as -100). Repeated experimental verification of Einstein's Relativity theory confirms its statement that space and time can never exist separately but form what is known as space-time. The space-time distance between us and the star is therefore $100 + (-100)$ i.e. $100 - 100$ i.e. 0 and there is actually zero separation between us and the star's gravity, heat etc.

How can zero separation be true if our eyes and telescopes can see that the star is obviously far away, if its gravity has no noticeable effect on us and if its heat has no effect on us but would instantly evaporate anything that, in fact, had no separation from it? This is a very hard question to answer in a few lines. I hope you'll see the logic in zero separation after reading and re-reading this entire book and, for now, I'll just say that I find it convenient to think of people living in two worlds (one of zero separation, one where things are as they seem) but the unification spoken of throughout the book unites these two worlds into one. Here are a few sentences from different sections which may be helpful at this point –

Remembering that this book believes all existence unfolds in a computer-generated hologram, "this is similar to 2 objects which appear distant from each other on a huge computer screen actually being unified by the strings of ones and zeros making up the computer code which is all in one small place". The 2 objects which appear distant from each other could be the star (along with its gravity or heat) and us – or as we'll see in a couple of paragraphs, you and me, or 2 atoms in your or my body, or the opposite sides

of an atomic particle somewhere in space or somewhere in time.

Physical reality is, in a sense, a matter of perspective because science during the last 500 years has increasingly been shifting our conceptions away from absolutes and towards everything being relative. A unifying computer-generated hologram might reverse this trend and again give us something absolute to believe in. But addressing reality as perspective are these sentences from the book – “we know parallel lines never actually converge – but if we open our eyes and look in the right places, they do e.g. the 2 lines of a railway track seem to meet in the distance” and “If we use our current understanding of cosmology and mathematics (or our physical senses and scientific instruments, which function according to that scientific and mathematical comprehension), dividing the universe by infinity will result in endless separation. “A” will be here, “B” there, “C” will exist now, “D” in the past or future, and so on.”

But why, using the above example, should zero separation be limited to the distance between us and the star we’re looking at? Light would take a certain amount of time to travel from the centre of the star, where fusion reactions produce it, to the surface facing us (say, 200,000 years) and anyone on that surface would see the star’s core as it was 200,000 years ago. Light takes a certain time to reflect from your body to my eyes (say, $1/1,000,000,000$ of a second) and I would see you as you were a billionth of a second ago. Light (or any other form of electromagnetic wave) would take a certain period of time (say, a trillionth of a trillionth of a second) to journey from one atom in our bodies to another – or, say, a trillionth of a trillionth of a trillionth of a trillionth of a second to

pass from one side to the other of a subatomic particle in you, me or the star. The positive sign associated with distances in space and negative sign associated with time combine in all these examples, plus any others you can think of, to cancel and produce the zero separation of all space-time.

Purely for fun, I'd like to write a couple of paragraphs showing how zero separation can physically link sunspots and black holes (regions of space that can be formed by collapse of massive stars and have such a powerful gravitational field that nothing inside the event horizon or boundary, including light and other radiation, can escape), making comparison of the two by no means a superficial one. I stress that this is only a mental exercise to demonstrate that zero separation is relevant to the universe astronomers study.

Why do young stars form around a black hole when they should be torn apart? Compare the black hole to a sunspot. Sunspots form because the sun's equator rotates more quickly than its poles (25 days at the equator, 34 days at the poles). Being "frozen" into its gases, the magnetic field lines of the sun stretch, twist, are drawn out into loops and erupt through the sun's surface, forming sunspots. Since the intense magnetism of the spots prevents heat from rising to the surface and radiating into space, the Maunder Minimum of observations of extremely low sunspot activity from 1645 to 1715 (named after the solar astronomer Edward W. Maunder [1851-1928]) could actually be attributed to a period of intense sunspot activity. Why? Because a great number of sunspots would stop the Earth receiving as much warmth from the Sun, and the Maunder Minimum coincided with the middle – and coldest part – of the Little Ice Age during which Europe and North

America and perhaps much of the rest of the world saw glaciers advance and rivers freeze – even the Baltic Sea froze over, allowing sledge rides from Poland to Sweden with inns built along the way. It would be termed a period of minimum activity coz the sunspots would not have been visible. The distorted magnetic loops don't have to break through the sun's surface or photosphere but can remain within, forming a rotating vortex that concentrates field lines and can create intense, heat-trapping magnetism (from recent observations by the satellite SOHO, the Solar and Heliospheric Observatory).

When a black hole is rotating; it might also stretch, twist and loop its magnetic field lines. The lines may penetrate into the hole and be lost, but in the case of star formation they'd be drawn out beyond the hole's event horizon (boundary) and compress clouds of dust and gas into new suns (a supermassive black hole's magnetic field is so strong that it can focus particles into jets ejected far out into space so, provided the star is a safe distance from the black hole, it should be able to stop the hole's gravity from shredding a star and making its gases spiral inwards). To condense the paragraphs on zero separation into a few words, the 2 objects which appear distant from each other could be a sunspot and a black hole. On the subject of sunspots and the sun, the famous 17th-century scientist Sir Isaac Newton once said the entire universe would instantly feel the loss of the sun's gravity if our star disappeared suddenly – I think modern science doubts this but zero separation forces me to agree with him. And on the subject of black holes, a massive star truly can collapse and explode as a supernova while a gravitational singularity (the place all matter falling into the black hole gathers) would be produced from the collapsing core. What if that singularity is disintegrated by the fantastic pressure? It would become “BITS

of space-time” (this book’s proposed building blocks of all matter and spacetime that are the BInary digiTS – strings of ones and zeros – from which space and time emerge). In this way, nature would protect us from black holes and eliminate their assumed and perplexing properties of infinite density, infinite gravity and infinite spacetime curvature.

The shredding of a singularity into the building blocks of space-time reminds me of the idea by Lee Smolin, a theoretical physicist at the Perimeter Institute for Theoretical Physics in Canada, of black-hole-generated universes. I can imagine black holes producing the universe which creates the black holes because of the holes’ ability to warp time into a pretzel. Smolin’s proposal would do away with universal intelligence and replace it with a process of natural selection, but I cannot imagine the black holes producing enough spacetime building blocks to do more than increase their size somewhat - fashioning new universes would seem to require far, far more spacetime bits than they could possibly make. Even if all black holes coalesced in trillions of years to form a single hole the size of the universe, how could spacetime bits assemble into new space-time and matter in the absence of an intelligence pervading every part of the cosmos? And if that intelligence exists, I personally prefer this book’s idea of an intelligently designed, cosmic computer-generated hologram.

(Demonstrating zero separation to be relevant to the universe astronomers study requires a bit of research to get the astronomical facts right, so thanks go to the May 2009 interview in “Discover” science magazine with professor of astronomy and physics Andrea Ghez; the 2006? TV documentary “The Sun”; Wikipedia, the free Internet

encyclopedia; “The Sun”, a 1989 volume in Time-Life’s series “Voyage Through The Universe”, Stephen Hawking’s 1988 book “A Brief History of Time” and Patrick Moore’s 1986 book “A-Z of Astronomy”)

If there is zero separation between points in space, then Earth is actually in the same place as any astronomical object (a reality we can never comprehend by solely using our limited physical senses and astronomical instruments). And we really would see a new era in space travel! As well, any object or person on Earth would actually be in the same place as any other - and there would be a revolution in all forms of travel, including the electronic travel of email. If time is another form of space and there is zero separation between points in time, the year 2007 would be in the same "place" as e.g. 1971. This means all times co-exist (permitting so-called time travel), and the end of anything or anyone would only exist to our limited senses and experiences. When we believe we’re experiencing a beginning or ending, the opposite condition is occurring simultaneously (as is every state in between, or beyond).

“Space is nothing”. On one hand, I’d give my short answer and say that after about 30 years of reading and thinking, I totally agree with this statement. On the other hand, I’d write the following long (10,000 word) answer –

Space and time only exist in our experience. They are emergent properties, like wetness and mind. We experience wetness because it emerges from the building blocks of the hydrogen and oxygen atoms which make up water. We experience mind because it

emerges from the building blocks of neurons (nerve cells) composing the brain. And we experience space-time since it emerges from the building blocks making up the universe. I'll attempt to show that these units are a combination of electromagnetic pulses (forming a cosmic computer which includes randomness and thus the potential to escape rigid preprogramming, and have a free will) as well as lasers' reference/object beams (forming a cosmic hologram). I'll also try to show that this combination unifies general relativity, which describes gravity and the large-scale structure of the universe; with quantum physics, which describes tiny subatomic structures.

As Carlo Rovelli (a physicist at the University of the Mediterranean in Marseille, France) explains it, in quantum mechanics all particles of matter and energy can also be described as waves. And waves have an unusual property: An infinite number of them can exist in the same location. If time and space are one day shown to consist of quanta (individual units), the quanta could all exist piled together in a single dimensionless point. "Space and time in some sense melt in this picture," says Rovelli. "There is no space anymore. There are just quanta kind of living on top of one another without being immersed in a space." Rovelli has been working with one of the world's leading mathematicians, Alain Connes of the College of France in Paris, on this notion. Together they have developed a framework to show how the thing we experience as time might emerge from a more fundamental, timeless reality.

Since my proposed computerised-holographic combo unifies everything on Earth, in the universe and throughout all time; consciousness is not limited to the mortal brain and

body it originates in. We exist forever ... and will be able to use future advances in our civilization to do whatever seeming miracles we aspire to, and to go where and when we choose within the unity of all space-time (as long as none of this harms others, of course).

Now for some paragraphs I wrote after reading "SPACE: The Slow-Motion Mission" in Time Australia magazine's July 30, 2007 issue –

So the spacecraft "Dawn" is destined for the mysterious body orbiting the sun between Mars and Venus? Well, Earth is certainly mysterious!! Most people would see nothing more than a simple mistake here (you said "between Mars and Venus" but you meant "between Mars and Jupiter"). But I see the opportunity to contemplate what you describe as "an entire new era in space travel".

The real destinations are the asteroid Vesta and the dwarf planet Ceres. Einstein's theories, while not definitely stating that there is no separation between any two points in space or time, definitely imply this. In about 1980, these implications of Einstein's Relativity theory were studied by the American John Dobson (creator of the "Dobsonian" telescope mount, co-founder of the Sidewalk Astronomers Organization). He coined the term "zero separation" to describe Relativity's implications, but describing the universe as a Unified Field or Grand Unification would be just as accurate.

If there is zero separation between points in space, then Earth is actually in the same place as Vesta and Ceres and all other astronomical objects (a reality which our limited

physical senses and astronomical instruments can never comprehend). And we really would see a new era in space travel! If there is zero separation between points in time, the spacecraft's launch date of 2007 would be in the same "place" as the end-of-mission date of 2015. This means all times co-exist, and the end of anything or anyone would only exist to our limited senses and experiences. In reality, beginnings and endings have never existed in isolation. When we believe we're experiencing one of these conditions, the opposite condition is occurring simultaneously (as is every state in between; and beyond).

How can every state of everyone and everything exist at once? Imagine the universe is the ultimate hologram. A tiny part of the universe, such as a card in your wallet or purse, can display a number of holographic images (each is revealed when light hits the card in the correct position). The universe's programming is so sophisticated and powerful - I'm comparing the universe to a combination of computer and hologram technology - that every state of everything has its own image (which is accompanied by qualities called sound, electric charge, magnetism, gravity, mass, etc. etc.) Each image (and its companion properties) is revealed when our limited perceptions/experiences/instruments interact with an aspect of the universal programmed hologram.

Everyone who's alive on Earth today is, simply by living their life, contributing to the civilisation that will exist on Earth centuries from now. That future civilisation will, in my opinion, be truly miraculous and unbelievably fantastic by today's standards. Its doctors and scientists will give everyone perpetually-rewarding immortality in a youthful and healthy body, but with a mature mind that has no tendency towards lawlessness or

war or selfishness. Every point in space and time will be easily accessed, and humankind really will achieve its wildest dreams. Please remember that the achievement of these dreams is grounded in our everyday reality. It comes about through the efforts of doctors, scientists and every person who is alive now or who ever lived anywhere.

The miracles of that future civilisation are by no means limited to the world of centuries from now. During the previous century, science has become more and more convinced that space-time is a Unified Field or Grand Unification. This began in earnest with the scientific theories of Albert Einstein and is probably best known today through physics' Superstring Theory. At present, unified field theory cannot be proven. But the day will come when it is not only proven, but also wondrously manipulated and put to practical use.

On average, people have about 70 years on this planet contributing to the future. At death, they participate in the fantastic future they helped build. This is possible because space-time is a unification and places-times co-exist. What would happen if we were allowed to enjoy the future while still alive? We'd see that the future already exists and we'd decide there's no reason to continue our efforts and our struggles. But without our efforts and struggles, that future could never be constructed. So there have been advantages to people of past times remaining ignorant of the co-existence of times while alive. The world is now gaining an understanding of unification - therefore, its journey towards putting unification to practical use has begun. It's now time for people to begin understanding the true nature of reality and for them to comprehend that death is not their

personal end. Every day throughout history and prehistory has been taking us a step closer to that goal – the last century's development of Relativity, quantum physics, electronic computers, space travel, holography and the Internet are but a few of those steps. Death is only the end of the efforts and struggles people went through in the course of making their contribution to the miraculous future. It's the beginning of their enjoyment of the things that future world offers.

Part of me is so jealous. I'm just so curious to know what the world will be like in 500 years, and a thousand years, and a million years, and so on. But it's only like it is because we're all doing our bit to make it so. So I'm more than happy to stay here and do my bit. I just re-read what I've written. I know I've been thinking about these things for a long time, but part of me is wondering how I wrote that. It's interesting food for thought, isn't it? It reminds me of these words from John Lennon's song "Imagine" - "You may say I'm a dreamer, but I'm not the only one. I hope someday you'll join us ... and the world will live as one".

One deduction from the idea that space-time is a unification and places-times coexist is: Everything always exists in the Universal Programmed Hologram, so every one and thing is even more intimately and eternally linked than we can imagine. (For this reason, I ask myself if I really wrote the book, or if I was merely looking for words to express ideas buried deep in the unconscious mind of everyone.) Also, great religious books are correct to teach "Thou shalt not kill" (when anyone tries to kill anyone else; they're actually, but unknowingly, trying to kill themselves). It doesn't matter which alphabet and exact words

are used.

Nevertheless, we must always remember the bravery and sacrifices of those who struggled in this world before the present year. Different actions are appropriate at different times in our personal history e.g. going to school when a child, having children when an adult. In the same way, different things are appropriate at different times in world history. The past was a time for wars, the future is a time to refrain from war.

Sure, we appear different and separate, but our minds can overcome that illusion presented by our senses and experiences. Each of us lives in two worlds ... that of our everyday senses and that of the mysterious universal hologram. So our minds have a lot to do - we need to explore the wonders and miracles of the new holographic world, and also reconcile that with this old world, so it too will come to be full of wonders and miracles. And it's a good thing that we live in 2 worlds. If we were restricted to the holographic world, we would pervade all existence. Nothing from what we think of as "out there" could stimulate our brain cells and make us conscious.* But like characters in a cosmic SIMS or SECOND LIFE game, we have individuality in our second world and brains that can become conscious of the first (holographic) world.

* If there's a cosmic artificial intelligence, as I've suggested elsewhere, there would be calculations occurring eg the subroutines involved in the orbits of planets around stars. I'm sure these calculations would equal the firing and interconnecting of brains' nerve cells - since this is a cosmic AI, it must infinitely exceed the consciousness and

intelligence of any individual brain! But we're being anthropocentric at the moment, and discussing the biological brains of individual organisms. Therefore, exploring all the space and time (and hyperspace) in existence appears to require either 1) transportation of the physical brain - along with its body - in a vehicle resembling Doctor Who's TARDIS, 2) teleportation through space and time of the brain - and body - as nonphysical duplicates or backups of their physical counterparts, or 3) in a mental context, using the Unified Field to comprehend at least a few of the scientific discoveries of the distant future (thus letting our brains teleport our minds through space and time). These methods may seem like science fiction, but exploring the entirety of space-time appears impossible enough without being restricted to the total impossibility of using the physicality and technology we possess now, or will possess in the foreseeable future (eg our brains and bodies are vulnerable to radiation/muscle and bone loss/abnormal psychology/etc when travelling in space, and simply reaching nearby stars would take years).

Who wouldn't love to believe the things we see in the "Star Trek" movies and TV programs are real? We could have warp speed, time travel, matter transporters, alien intelligences, a world without the worries of money, the creation of new planets, and so on. We'd have to move further ahead than the Star Trek years to find worldwide and universal peace, but I think all Trekkies (or Trekkers) would agree that Captain Kirk, Mr. Spock and their friends are slowly groping towards peace.

Well, people tell me it's the 21st century. That's what my calendar says - but everywhere

I look, people are behaving as if it's still the 20th century. Maybe they'll catch up to the calendar in 10 years. In the meantime, we'll pretend a new age has dawned - and we'll explore how the science of the early 1900s (represented by the theories of Albert Einstein and quantum physics) can be united with the entertainment of the late 1900s (represented by the phenomena of Doctor Who and Star Trek).

Amazingly; I read in a magazine about 10 years ago that Gene Roddenberry (Star Trek's creator) received information from an extraterrestrial civilization about the fantastic possibilities in the show. He then took these and created his inspiring, futuristic program. At the time, I thought this was nothing more than an interesting magazine article. It sounded like science fiction then, and it still sounds like sci-fi. But at the same time, I'm willing to believe he really did experience some kind of vision - something that suggests Star Trek deserves serious thought, and is more than the product of a wonderfully creative imagination.

Do you remember the episode of "Star Trek: The Next Generation" where a woman from a comparatively primitive planet was transported aboard the spaceship Enterprise, and was overwhelmed by the sight of her world shining among the stars? Captain Picard explained that he and his crew don't regard the woman and her kind as inferior. They are respected for who they are - people whose civilization just happens to be very young compared to that of Picard and his crew. In time, the woman's civilization will learn, and be able to do all the things that presently cause her to think of Picard as a god.

The concept of God intrigues me because I believe it's related to the nature of the universe. I believe everything in space and time is connected by infinitesimal pulses of energy that are many millions of times smaller than anything that even the most powerful microscopes can reveal (this is similar to the way everything on a computer screen is connected by pulses of electricity, and spacetime's energy pulses are the basic units constituting the motions or currents within what physicists call "heterotic superstring theory"). Maybe the "sea of energy" in the universe causes those qualities which churchgoers say are God's. These are qualities like being everywhere in space-time (as well as outside space-time, in what I've referred to elsewhere as hyperspace), having unlimited power and knowing everything (the universe would be filled with something similar to advanced computers' Artificial Intelligence). This is one explanation of God (it agrees with the Bible and Koran that there is only one God). A second one – it approaches the subject from a different angle but agrees there is only One - is that I'm certain humans will eventually be capable of creating universes, using presently-incomprehensible mental abilities, and genetically engineering themselves/travelling anywhere in space or time to establish colonies on other planets in the present, past and future. Maybe this 2nd explanation is a description of the word "Elohim" (a name used in the Old Testament for God) ... Elohim means the "plural majesty of the one God". In a cosmic unification, all of humankind would be a plurality constituting one being - but we could not say humans are God because the rest of the universe is also included in this plurality or unification. Speaking of "us" and "others" is simply a matter of convenience coz in reality, everyone (and everything) springs from the one source - the software behind the universal and megauniversal hologram.

Mutations/randomness in the code behind the megauniversal Programmed Hologram permit a degree of free will. Since we can control our movements, this means we have influence over mutations and programming. It is not the muscles in our arms/legs which influence the Hologram Program, but the signals in our brains. So why can't we ordinarily and effortlessly move external objects with our thoughts, disregarding distances in space or time? This could be answered by my belief that we all live in 2 worlds. The universe would actually be a unified field at the deepest level of reality ie from the perspective of the holographic world. But superficially (from the viewpoint of the world of space-time we know through our everyday thoughts and senses and experiences), we cannot disregard distances in space or time, and we need our legs and arms. "A New Earth and a New Universe" seeks to merely modify both Darwin's theory of evolution and the concept of Intelligent Design, and show that these modifications enable the concepts to coexist. I believe all life (you, me, everyone) and everything shares the "common ancestor" of the intelligently-designed megauniversal hologram and mutations/randomness are essential for our development.

My book explains that there are actually no separate objects or events in space or time. So when we learn to apply the contents in our everyday, practical lives; we can be anywhere we want (even in the air or in space, as if we were flying). We'll be able to move our bodies from A to B in practically no time, as if we had superspeed. Since the universe is a unification, we'll be able to influence things in extraordinary ways, as if we had superstrength or heat vision. We'll be able to preserve the structure and functions of

our bodies forever by applying our minds to this cosmic unity and constantly, as well as instantly, returning them to a state of perfect health. This will have the same effect as fictional Superman's invincibility. Zero separation between things in space-time means nothing will be undetectable by our senses: just as if we possessed superhearing, X-ray vision, microscopic vision or telescopic vision. I know all this is pure science fiction today, but in a thousand years you - yes, you - will be able to wear a red, blue and yellow costume (if you want to) while you run or fly faster than a speeding bullet, leap tall buildings in a single bound, and bend steel with your bare hands.

I recently read John Horgan's article in the Oct. 2006 issue of Discover magazine ("The Final Frontier"). Even though the end of science feels impossible to me, I have to agree that "... there are nagging hints that most of what lies ahead involves filling in the blanks of today's big scientific concepts, not uncovering totally new ones." Because the rebel in me can't stand these nagging hints that "... science will never again yield revelations as monumental as evolution or quantum mechanics", I've devoted the last few decades to exploring new scientific concepts based on what today's science tells us, and seeming to form a consistent picture.

"THE MYSTERY OF CONSCIOUSNESS"

Added Feb. 6, 2007 -

Locating consciousness in the activity of the brain absolutely strangles the hope that we might survive the death of our bodies - unless time travel can be removed from the realm

of fiction, and demonstrated to be scientifically valid in actuality. Compressing the known science into a few lines, I believe the theory leading to time-travel's exhibition is:

Particles and the universe can be regarded as closed loops of electromagnetic energy. These could be called strings or superstrings or Mobius loops (a Mobius loop can be visualised as a strip of paper which is given a half-twist of 180 degrees before its ends are joined). Remember that the top, side and bottom of each loop each consist of a miniaturised, fractal version of electromagnetic pulses forming length, width and depth (a fractal is a geometric structure having an irregular or fragmented appearance which is of a similar character at all magnifications - the word "fractal" was coined in 1975 by French mathematician Benoit Mandelbrot). The 3 familiar dimensions of length, width and height along, for example, the top of a loop would have a 4th dimension (time) perpendicular to them (on the side of the twisted paper ... or electromagnetic loop). And there would also exist a 5th dimension called hyperspace, at right angles to the 4th and 180 degrees from the length/width/height along the loop's top. The previous parts of this paragraph can be likened to astronomy's picture of the 3+1 dimensions of space-time existing on the surface of a balloon which is expanding from an inner hyperspatial point (not in space-time) where the Big Bang occurred. These loops unite space and time into Einstein's space-time, and the famous scientist Stephen Hawking says time can be thought of as another space dimension, so literal time travel is a possibility. With literal time travel, people who have long since died could have their minds downloaded into reproductions of their bodies (establishing colonies throughout space and time would prevent overpopulation).

Thus, individual consciousness is connected with space-time. If the connection is permanent, consciousness would no longer be restricted to finite brains and its link to everything in space-time would make it free of all limitations when we learn how to use that link. Unification of personal consciousness with space-time (and thus, everyone else) would also enable annihilation of the concept of "self" and "other".

The TV program "Heroes" may only be intended as entertainment, but I'll attempt to show that it anticipates the actual science that will be used in the far future to bend time and space in order to create humanity, Earth and the universe. Is this absolutely nutty? If I hadn't been working on these ideas for more than 30 years, I'd say "But we already exist!" and throw them in the rubbish bin without reading any further. In fact, you may well throw out the baby with the bathwater, too ... But to use a phrase coined by U.S. astronomer John Dobson in about 1980 after he studied Relativity's implications, there is "zero separation" between any 2 points in space-time. Therefore, my submission of this text is something your individual personalities would submit if you were in my shoes, and your interpretation of this submission (whatever it may be) is one I'd adopt if I were in your shoes. So I'll type this, then say "Que sera sera ... what will be, will be".

LET IT BE

If correct, IQGCC (a term I made up from "Integrated Quantum Gravity" + the "Combined Cycle" of Synthetic Biology and Excess CO₂) clearly shows Earth will find a use for the extra carbon dioxide (CO₂) produced by our factories and cars.

First, I'll do my best to show that quantum mechanics (subatomic physics) can indeed be integrated or combined with Einstein's Theories of Relativity (forming quantum gravity) to explain the Cosmos and aspects of it that are currently mysterious. Explaining the Universe is quite lengthy compared to the rest of this intro. So to avoid getting off the subject and making it appear that my intro's actually about cosmology, I'll ask you to please read "Relativistic Heavy Ion Collider: the approach to a new beginning (coz it's a step towards creation of, and new insight into, the universe)".

Second, consider the remarkable achievements of genetic engineering and biotechnology during the last half-century. For some scientists, it's no longer enough to move genes from one species to another, or to create animals or bacteria that secrete certain drugs or hormones. Now science is working on synthetic biology: things such as engineering many genes to work together, artificial DNA, creation of totally new amino acids and proteins and artificial life. What happens if we take these advances after centuries of development and combine them with the science-fiction-like technology of time travel? (Using present science, the above concludes time travel is really an undiscovered variation of space travel ... and therefore scientifically and technologically possible.) We

could see science creating the ancestral forms of the plants, animals and even humans around us.

It's easy to say things like "Scientists are playing God, and tampering with nature". But to use a phrase coined by astronomer John Dobson after he studied Relativity's implications, there is "zero separation" between any points in space-time (so the thoughts and actions of any scientist are, in a way, also the thoughts and actions of you and me). In any case, none of us would be gods - the scientists, for example, would simply be using the built-in human drive to survive. If they didn't perform their synthetic biology, they'd never exist (this is utter nonsense if we only think in terms of linear time, but repeated experimental verification of Einstein's theories makes it clear that time is warped.)

This book leads to the realization that the word "light" does not refer only to visible light and the colours we see. In agreement with scientific tradition, "light" also refers to all forms of electromagnetic radiation - there is ultraviolet light, infrared light, light belonging to X-ray or radio wavelengths/frequencies ... But this book goes further. Since all space, time and hyperspace (the entire universe, and all the cosmoses making up the megauniverse) is a unification and is actually one thing; anything and everything can be regarded as light - even sound or matter.

The grooved structure of peacock feathers splits light in the same way as a diffraction grating, a tool invented by 19th-century physicist Joseph von Fraunhofer to discern the nature of sunlight. The skeleton of Venus's flower-basket (a sponge, one of the simplest

animals) directs light where it is needed, just like modern optical fibers. Morpho butterflies create color by selectively adding and deleting certain wavelengths of light. Physicists have only recently devised comparable materials, called photonic band-gap crystals; and are now exploring their use in phone switches, solar cells and antennas. No surprise, then, that some engineers are looking to the living world for the next generation of optic inspirations. (this paragraph is from DISCOVER science magazine's article "Illuminated Life - Meet the true masters of optics: Animals that know a lot more about slicing, dicing, and twisting beams of light than we do" by George M. Whitesides, Portfolio by Felice Frankel (08.06.2005))

I believe advances in engineering and biology will enable humans, like the morpho butterfly, to selectively add and delete certain wavelengths of light. But anything and everything can be regarded as light (all electromagnetism, gravity, sound, matter, space, time, etc.) So the day will come when there are absolutely no limits to what a human can do! However, it is good to remember that we will never be gods or goddesses because the rest of the universe is also included in this plurality or unification. In the 1990s book "Mary's Message to the World" by Annie Kirkwood, it is stated that the mother of Jesus says people will have new structures in their bodies in the future and these will give us new abilities. Could these structures be cells in the brain that act as photonic band-gap crystals, and selectively add and delete certain wavelengths of light? Photonic band-gap crystals would, of course, only deal with light in its photonic forms (energy forms such as electrical, visible light or radio). The band-gap structures I have in mind would need to deal with forms like matter, so they could add or delete anything and everything we

choose. This ability must only come to fruition in a future, ideal society: it would only be wasted and abused in the present warring and selfish world! They might accomplish this by acting as a Planck scale (roughly equal to a hundredth of a billionth of a billionth of the size of a proton, and named after the German physicist Max Planck who lived from 1858 to 1947) modem, which could manipulate the pre-existent digitization of matter - then by emulating computers' copy/paste function to add things; as well as their delete function, to remove things. One result of the universe being a unified field is that you and I don't have to wait for this incredibly great future to eventuate. It already exists, and it is possible for our brains to access that future.

Third, let's return to the excess carbon dioxide. Proposals to sequester (store) CO₂ include placing it in old oil or gas fields, in old mines or beneath the sea floor. When viewed from the lifetime of our planet, these measures can only be temporary and ineffective, because of the geologic upheavals which inevitably affect all parts of the world over the course of many millions of years. It would be far better to store the carbon dioxide by splitting it into carbon and oxygen, then sequestering these elements in produced lifeforms (who are, after all, carbon-based and also largely composed of oxygen) as well as in the created Earth (both oxygen and carbon are present in it).

I've often said or thought that mankind's belief in human-induced climate change exaggerates our own importance. Now I'm convinced our future selves created themselves, this planet and the universe (all this could be considered important :-)) ... Que sera sera - Whatever will be, will be ...

Carbon dioxide has an association with hydrogen, too. Not only do Integrated Gasification Combined Cycle (so-called "clean coal") power plants reduce CO₂ emissions and produce hydrogen for burning as fuel or for use in fuel cells (to generate electricity), but hydrogen makes up approx. 75% of the universe. This association further suggests that there is zero separation between the 21st century's excess CO₂ and creation of humans, Earth, the Moon and the Universe.

Though I'm personally obsessed with keeping my life and environment clean, tidy and orderly; an intuition tells me we should learn to accept the zero separation between Creation and the 21st century. Of course, there is actually no separation between any event or any century. But it would be wise to accept that the current state of atmospheric CO₂ levels might not mean the world is approaching an ending. Rather, the world might be approaching a beginning.

Relativistic Heavy Ion Collider: the approach to a new beginning (coz it's a step towards creation of, and new insight into, the universe) (March 5, 2007)

According to Dmitri Kharzeev of Brookhaven National Laboratory's Physics Department in New York: "There are certain similarities between the "fireball" created at the Relativistic Heavy Ion Collider (an extremely hot bit of matter smaller than an atomic

nucleus) and a type of theoretical black hole - the same mathematical methods can be applied to analyzing both."

The mini black holes proposed by physicist Stephen Hawking in 1974 appear to be theoretical black holes sharing similarities with the "fireball". There is an explanation of the universe which embraces these black holes and the 3 "subuniverses" which could exist in our cosmos according to mathematical equations developed by Albert Einstein in 1917.

According to the 1973 book ALBERT EINSTEIN: CREATOR AND REBEL by physicist Banesh Hoffman and Einstein's secretary Helen Dukas, mathematical equations developed by Einstein in 1917 say a maximum of 3 "subuniverses" could exist in our cosmos: here, I'll refer to them as SPACE (embracing the 3 dimensions of length, width and height), TIME (the 4th dimension) and HYPERSPACE (the 5th dimension).

Transmission holograms are made on a photographic plate or film by interference between the 2 parts of a split laser beam - by analogy, one part of a split laser beam could, in the far future, compress a tiny quantity of matter in the 5th spatial dimension to the required temperature and pressure of a big bang (this portion would be the reference beam and would produce one of Hawking's mini black holes).

To seemingly change the subject for a moment: Quantum mechanics, Einstein's Relativity, theories of universal holograms and cosmic computers, plus the idea in eastern religions that reality is illusion together convince me there are actually no solid or

separate objects or events in space or time. In particular, I'm convinced by Relativity's $E=mc^2$ (Energy = Mass times light's velocity squared) and quantum theory's Wave-Particle Duality, as well as what quantum mechanics says about subatomic particles communicating instantaneously across the universe or experiencing the whole universe in their existence.

The last two phenomena could be understood by stating that any particle has the same properties as the universe as a whole (unconventional US cosmologist Max Tegmark says "You are made up of quantum particles, so if they can be in two places at once, so can you." We can say "The universe is made up of quantum particles, so if they can be in two places at once, so can the universe." There need not be any such thing as parallel universes, however (the parallel-universes, also called the many-universes or many-worlds, interpretation of quantum mechanics was developed by American physicist Hugh Everett III in 1957). The universe's being in two places simultaneously could mean it's in the same space-place as any or all of its particles. It could also be in the same time-place as any or all of its earlier or later selves because there can be no space without time). Jack Harris, an Applied Physicist at Yale University says quantum mechanics describes a crazy microscopic world where particles whiz around at blistering speeds and routinely violate the classical laws of physics we take for granted. Jack Harris's goal is to take advantage of the "really strange, even mystical" laws of the microscopic and apply them to problems in our macroscopic world. "The ultimate eureka moment would be to suddenly realize that a [macroscopic] object is doing something that is absolutely forbidden by classical physics," he says. If we look closely at the universe by not

restricting it to the classical physics which preceded the quantum principle, we can comprehend how the macroscopic universe could behave quantum mechanically and violate classical physics. It's easy to imagine all parts of the universe being in contact (and thus forming a unification) when that universe was the size of a subatomic particle, nearly 14 billion years ago. Since the universe still has the same properties as a particle (and particles obey quantum mechanics' wave-particle duality), it is still a unification (and a unified field). In 1980 or the late 1970s, American astronomer Carl Sagan (1934-1996) wrote these lines for his award-winning television series and accompanying book, "Cosmos": "There is an idea – strange, haunting, evocative – one of the most exquisite conjectures in science or religion. It is entirely undemonstrated; it may never be proved. But it stirs the blood. There is, we are told, an infinite hierarchy of universes, so that an elementary particle, such as an electron, in our universe would, if penetrated, reveal itself to be an entire closed universe." Well, this book doesn't support the idea of a hierarchy of universes. I believe there is one static megauniverse (one Cosmos) existing forever and made up of an infinite number of expanding subuniverses (more about this later). But I do believe – it stirs my blood! – in the "exquisite conjectures" of the universe (and the infinite Cosmos) behaving like an elementary particle, and of these two combining to form one unified field.

Another way of viewing this fact is to think of particles and the local universe as closed loops of electromagnetic energy. These could be called strings or superstrings or Mobius loops (a Mobius loop can be visualised as a strip of paper which is given a half-twist of 180 degrees before its ends are joined). Remember that the top, side and bottom of each

loop each consist of a miniaturised, fractal version of electromagnetic pulses forming length, width and depth (a fractal is a geometric structure having an irregular or fragmented appearance which is of a similar character at all magnifications - the word "fractal" was coined in 1975 by French mathematician Benoit Mandelbrot). The 3 familiar dimensions of length, width and height along, for example, the top of a loop would have a 4th dimension (time) perpendicular to them (on the side of the twisted paper ... or electromagnetic loop). And there would also exist a 5th dimension called hyperspace, at right angles to the 4th and 180 degrees from the length/width/height along the loop's top. The previous parts of this paragraph can be likened to astronomy's picture of the 3+1 dimensions of space-time existing on the surface of a balloon which is expanding from an inner hyperspatial point (not in space-time) where the Big Bang occurred. So I didn't really change the subject much a minute ago, but am still discussing mini black holes. Electromagnetic pulses would continuously circulate from each of the 3 familiar dimensions through the 4th and 5th, and back to the 3; producing a unification. This circulation means any particle interferes with itself. The circulating pulses unite the 3 dimensions of space with the 4th dimension of time ie today's vastly expanded universe is united with the highly compressed, subatomic-sized universe of the past; as well as with the 5th dimension of our universe's space-time generating Big Bang.

A 3rd way to understand the unity of the universe (How do I unite thee? Let me count the ways...) is by reading Bob Berman's "Sky Lights" in the July 2006 edition of "Discover" science magazine -

"... physicists predict that the singularity at the heart of a black hole has (zero volume)."

"... since locations in (space) are relative", the position of the singularity is not absolute in reality. This contradicts experiment and observation, which maintain that position of objects is certain. Therefore, observation and experiment would be less dependable guides to how the universe works than the power of the mind using those methods (by building on the discoveries of observations and experiments, the mind's power reveals the long-sought unified universe). Relative location in space also means the atoms making up the heart of a person do not occupy definite positions but can coexist with the singularity and have zero volume. "... since locations in (time) are relative", a person's heart does not possess zero volume at just time A or time B, but always. We can adapt the quantum mechanical thought experiment known as Schrodinger's Cat in which the cat exists and does not exist at the same time. In general, quantum mechanics does not predict a single, definite result for an observation. Instead, it assigns a probability to each outcome as in, for example, the quantum mechanical thought experiment known as Schrodinger's Cat in which the cat exists and does not exist at the same time (a hammer which might or might not be triggered by a source of radioactivity to break a bottle of poisonous gas both kills and doesn't kill the cat - and all these things are placed in an airtight box). This adaptation says Schrodinger's Heart beats and does not beat at the same time. Since black holes and people share this zero-volume property (as would everything in space-time), we can think of the universe as a unification, or as an integration of relativistic space-time and quantum physics.

And a 4th way – "There is a powerful statement in mathematical topology known as the

fixed-point theorem. The fixed-point theorem, which was proved before World War 1 by the Dutch mathematician Luitzen Egbertus van Brouwer, states that when a surface is subjected to certain forms of continuous distortion, at least one point of the surface will remain fixed, or stationary. Put in this dry, abstract way; the theorem may not seem remarkable, but it has many impressive consequences for the physical world. The fixed-point theorem ... applies to the human head and other spheres, such as the Earth. It states that mathematically, a sphere cannot be associated with a continuous field of radiating lines without there being a fixed point. For a head of hair this means that there must be a fixed point, or whorl, from which the hair radiates. For the Earth this means that the wind cannot be blowing everywhere on the surface at once; there is always a tranquil spot.”
(from Dr. Crypton’s Puzzles and Mind-Teasers: Omega Science Digest, March 1983)

If space-time is closed (positively curved like a sphere), the fixed-point theorem must apply to it also. Then one point in space-time could not be anything like the rest of space-time *. We know a certain length of time elapses when proceeding any distance through space, whether this refers to a walk down the street or a flight to some distant star system – but at this particular spot, the laws of physics could well indicate just the opposite. Similarly, we can’t normally visit the past or future – yet in this spot, time travel may be perfectly normal and practical.

* I believe this point might correspond to John Dobson’s Underlying Existence; the spaceless and timeless reality of Carlo Rovelli/Alain Connes/Julian Barbour; and the One Unchanging Being of Parmenides/Zeno. As well, it may produce the Technological

Singularity (best known by Ray Kurzweil's book "The Singularity is Near") - this is a theorized era in which our intelligence will become increasingly nonbiological and trillions of times more powerful than it is today. We will be able to absorb and retain the entirety of the universe's knowledge and machines will become vastly superior to humans in every way i.e. we'll see the emergence of true artificial intelligence.

The fixed-point of space-time might also correspond to the Omega Point (the state of infinite informational capacity leading us to a new state of peace and planetary unity, and identified as being God) conceived of by French philosopher, scientist and priest Pierre Teilhard de Chardin (1881-1955) and addressed by Professor Frank Tipler; as well as my 5th-dimensional computer code creating the universal unification and zero separation of our computer-generated hologram. When I use the word universe in this book, I do so flexibly and could be referring to several things: 1) the megauniverse (Cosmos), 2) our local universe, or even 3) the megauniverse behaving like a subatomic particle. All these things are explained within the book but for now, we only have to remember that the universe's zero-separation unification with the variety of geometric shapes existing makes it flexible. If you're seriously into measurement, definition and categorization; this malleability and plasticity has the potential to seriously confuse you – in one year, the universe will appear closed and positively curved like a sphere; in another year, it will seem to be open and negatively curved (resembling a saddle); yet another year, some space probe's results may convince you that it's flat and light travels in straight lines. As I'll write shortly, "Just like a paper Mobius strip, the shape of particles and the universe itself would be extremely flexible – causing indeterminate, ambiguous results in measurements. (A paper Mobius can, for example, resemble a triangular or square shape

at various times; and its side and bottom may or may not be precisely 90 and 180 degrees from its top.)” Trying to use reason and weighing the evidence (e.g. Relativity’s curved space-time, telescopic and satellite observations showing galactic clusters and voids in huge bubble-shaped formations, Mobius loops and fractal geometry) convinces me that the megauniverse/local universe is positively curved in the sense of being built up of bubble shapes. The local universe could be built up of bubble shapes – like rounded atoms and cells; whose “ultimate, spaceless and timeless, reality” or “Underlying Existence” may be to be constructed of strings of ones and zeros in a 5th dimension – and even possess an overall positive curvature. But the megauniverse could not have positive, spherical curvature since it’s infinite and could have nothing existing outside its fanciful sphere (not even empty space), though it could be composed of bubble-shaped local universes.

(Every individual except Teilhard receives additional info elsewhere in this book.)

Now to return to lasers. I previously spoke of the reference beam - the other part (the object beam) would scan or read all the data in a universe ... perhaps by first being transmitted through the 4th spatial dimension so it could focus on that entire universe when it was only the size of a subatomic particle. The reference and object beams then come to a focus - forming an interference pattern which creates a universe that obeys Newton’s 3rd Law of Motion (for every action there is an equal and opposite reaction) and rebounds/expands from the compression caused by the futuristic reference laser (the compressed matter corresponding to the material plate/film in conventional holography). In an earthly hologram, the interference pattern does not look like a photograph until light

hits it in the correct position. In a cosmic hologram, the interference pattern would merely be a dark cosmos evolving from a big bang until it was illuminated by another laser beam (from the generation of another big bang - please see the next paragraph). Then it would become a number of "images" including every possible frequency of electromagnetism, and thanks to wave/particle duality, matter waves and gravitational waves.

Expansion must initially be of an exponential, inflationary velocity because this reaction is in response to the action of light's velocity (the greatest in the universe). Then matter formed and gravity slowed expansion of the universe. If our civilization one day becomes advanced (and wise) enough to create the big bang that produces our universe, it is inevitable that we would continue to use this talent for making cosmic fireworks, and that other civilizations would also produce big bangs. In December 1979, the American physicist Alan Guth came up with the idea of an inflationary universe in which the universe (local, not mega-, according to this book) initially expanded much faster than it does today. He speculates that the artificial creation of a black hole through application of advanced technology could create another universe and once said, "For all we know, our own universe may have started in someone's basement." I cannot provide direct proof that ideas of creating universes and regions of space-time are correct. I can only point out that universal expansion would once more accelerate after gravity slowed it if more big-bang-generating laser energy is introduced to the infinite (in time as well as space) spectrum of universes.* The latest research shows that our universe is indeed undergoing accelerating expansion - this research is the result of 1998 observations of the redshift (shifting of an object's light towards the less-energetic red end of the electromagnetic

spectrum by the object's approaching or receding motion) of Type 1a Supernovas (a type of stellar explosion) carried out by the High-z Supernova Search Team and the Supernova Cosmology Project, and has been confirmed several times. It attributes acceleration to unknown "dark energy" instead of successive Big Bangs. Each and every universe in our megauniverse must possess the same laws of nature since production of each one depends on compressing a quantity of matter already in existence, and universes would receive an entropy-defeating influx of energy which would prevent their thermodynamic deaths.

The concept of "dark matter" would be used today to explain the increased gravitational effects caused by undetectable matter. But that undetectable matter would not be a new, unknown form of matter - it would be known particles travelling through the 4th and 5th dimensions (and therefore nonexistent in the 3 dimensions of ordinary space). While in these other dimensions, the particles known as dark matter are invisible ... but would of course still exert gravitational influence. (Physics' string theory states this by saying "Gravity may not be confined to 3 dimensions.") If particles circulated within the universe in a simple circle, they would spend almost as much time being visible as invisible. But the circulation of electromagnetic pulses following a Mobius-shaped path in a particle would be an example of fractals (phenomena repeated on ever-decreasing scales). So particles follow a Mobius-shaped path in universes (our universe is Mobius-shaped), and they could easily spend between 10 and 25 times longer being invisible than visible. In this case, only 4% to 10% of the universe's content could be ordinary, non-dark matter (as NASA's Wilkinson Microwave Anisotropy Probe revealed a few years

ago). Just like a paper Mobius strip, the shape of particles and the universe itself would be extremely flexible – causing indeterminate, ambiguous results in measurements. (A paper Mobius can, for example, resemble a triangular or square shape at various times; and its side and bottom may or may not be precisely 90 and 180 degrees from its top.)

* The "creation" of universes by means of computer-generated holography doesn't involve extraordinarily high temperatures and pressures if lasers aren't used, in which case it could be called the Cold Fusion approach to cosmogenesis (this is The Real Thing in production of universes). Each universe arises from a big bang, but the megauniverse they belong to has no beginning (thanks to time-travelling cosmogenesists) and no end (thanks to energy influxes from later big bangs which "create" other regions of space-time). And it maintains its average density through continuous "creation" (actually, recycling) of matter via the small amount from a preceding universe which is used to initiate expansion of its successor. This steady-state, or static, megauniverse would have its tendency to collapse (from, according to the viewpoint that only one time exists at any instant, ever-increasing gravitational attraction) always exactly balanced by, again from the viewpoint that all times cannot exist at once, the ever-increasing expansion of the universes it contains. The notion that contained universes that are forever expanding would somehow "burst" a static, steady-state megauniverse mistakenly assumes the megauniverse possesses a finite size; and it also reverts to our everyday experience that only one time exists at any instant (forgetting that all times exist and the megauniverse therefore accommodates not just some, but all, extents of expansion). Also: the megauniverse can be static even though it's composed of expanding universes because of

its literally infinite size which results from cosmogenesisists being able to access unlimited points in both space and time. People can be resurrected long after death then use time travel to be alive long before birth - similarly, universe producers can journey to points existing before origin of the particular universe they live in. Since the megauniverse is infinite, there's always a place and time for them to go to - we need to abandon our purely linear or serial concept of time which says universe B can only come into existence after universe A's origin, and embrace a holistic or whole-istic concept where universes B and A (and all others) coexist. The quantum mechanical thought experiment known as Schrodinger's Cat in which the cat exists and does not exist at the same time helps us understand "life before birth" and "later universes preceding earlier ones". To look ahead a few paragraphs, we can regard the cosmic hologram and the megauniverse as examples of invariance (the quality of not changing) and the hologram's relativistic property of appearing different from differing vantage points as represented by the expanding universes with their big bangs.

Since lasers can be used to create other universes, the above is occurring inside a cosmic hologram, which is a single frame. All forms of motion can therefore be compared to successive frames, or many images, existing on a single holographic plate or film. This applies to orbits of stars and planets, electromagnetic currents within subatomic particles, instant communication between particles that are light-years apart ... and so on.

But what about the movements people and animals make? What about free will?

Answering these questions seems to require thinking of the universe as not only a cosmic

hologram, but also as a cosmic computer. We must also remember that this cosmic computer does not merely mean programming, but it means programming that includes randomness (we might also refer to “randomness” as “mutations”). [Randomness is introduced into the chain of repetitive calculations producing the image of a mountain range so a convincingly rugged image will result.]

Using this model, we can regard orbits, currents and instant communication as subroutines in the cosmic programming. Every little voluntary movement, however, is not an unalterable thing pre-programmed into our lives. Randomness means we have a degree of free will (since we can control our movements, we can influence mutations and programming). To extend Charles Darwin’s theory of evolution, mutations do not necessarily mean we possess a common ancestor with apes - mutations or randomness would be essential for every form of life, matter and energy to come into existence.

Something which concerns me is the use of the clause “... the medium in which a wave travels ...” (a relevant concern since we're talking about cosmic holograms and light waves travelling in space). I am not going back to a time before the Michelson-Morley experiment of 1887 which showed light waves do not travel through space in something called the ether. My use of “medium” does not refer to any known or unknown substance, but to space as the means or agency by which a wave gets from point A to point B (as we saw before, referring to the travelling - or speed - of light is nothing more than a convenient way of speaking: its apparent speed is actually a matter of subroutines or successive frames in a unified hologram which appears different from differing

viewpoints).

Dennis Gabor proposed the theory of holography in 1947, but it only became practicable with the invention of the laser in 1960. So if your name was Albert Einstein and you were thinking about these things about 100 years ago, you'd be tempted to call your theory the Theory of Invariance (after light's [or the cosmic hologram's] unchanging properties - Einstein was referring to light's constant velocity in a vacuum), and the quality of holograms appearing different from differing viewpoints would become known as Relativity. Einstein did, in fact, originally favour the term "invariance". If the things I've written are correct, Relativity and quantum mechanics would have done the right thing in convincing me there are actually no solid or separate objects or events in space or time.

We have seen how mathematical equations developed by Einstein in 1917 say a maximum of 3 "subuniverses" could exist in our cosmos: here, I've referred to them as SPACE (embracing the 3 dimensions of length, width and height), TIME (the 4th dimension) and HYPERSPACE (the 5th dimension). Can the zero separation proposed by John Dobson (creator of the "Dobsonian" telescope mount, co-founder of the Sidewalk Astronomers Organization) be regarded as a 6th dimension?

Teleporting to Stargate (the Ides of March, 2007)

In "Discover" magazine's Jan. 2007 issue (called "Top 100 Science Stories of 2006"), I was excited by #16 - "Quantum Teleportation Leaps Toward Reality" - and mentally merged it with a short article I wrote several years ago: "Gates > sGate > SGATE > STARGATE" (> means "to").

Quantum teleportation is the process of making a subatomic particle's physical state vanish from one place and appear in another. It's possible because of a bizarre phenomenon known as entanglement, which allows particles to share information even if they are physically separated. This phenomenon is so odd that Albert Einstein uncomfortably referred to it as "spooky action at a distance." Eugene Polzik and his colleagues at the Niels Bohr Institute in Copenhagen, in collaboration with Ignacio Cirac of the Max Planck Institute for Quantum Optics in Germany, entangled a light beam with a magnetized gas of cesium atoms. "For the first time," Polzik says, quantum teleportation "has been achieved between light—the carrier of information—and atoms." This was also the first time that it was done with a macroscopic atomic object acting as the target, instead of teleporting occurring between pairs of photons or pairs of atoms. But a superfast quantum computer, Polzik notes, requires the transfer of information between a data stream like light and a stored quantum state (such as the atoms in the computer's hard drive).

I'm excited coz quantum teleportation seems to be the beginning of research that is a method for bringing to fruition my dream of the "emailing" of matter. (Perhaps information can be transferred from the atoms of the original object to light within optical

fibres then to atoms which will be reconstructed into a duplicate. However it's done, this form of futuristic email has other consequences, too - please see my full article below for a sample.)

Gates > sGate > SGATE > STARGATE

This article starts with Bill Gates, the co-founder (with Paul Allen) of the software corporation Microsoft. This is because part of the inspiration for writing this was a comment I read in a magazine about Bill Gates being the world's richest man. It ends with the human race's own technology causing it to transcend money and develop a society akin to paradise on Earth - i.e. we enter a doorway to a new world . . . a Stargate.

$E=mc^2$ (Albert Einstein's formula unifying energy [E] with mass [m] and relating both to the velocity of light squared [c^2]) makes a person suspect the apparently solid world of matter is really an illusion, and you and I are actually made of insubstantial energy.

Superstring theory, which rose to the forefront of physics during the 1980s, proposed that the fundamental constituents of nature are not particles but one-dimensional structures called strings. This heightens previous suspicions, and we wonder if the one-dimensional structures are in fact pulses of energy. Then along comes "TIME Australia" magazine's Feb. 26, 1996 article "What's Hiding in the Quarks?" (which says subatomic particles seem to be made of even tinier things). Finally, we might feel justified in assuming our suspicions were correct and that these "even tinier things" MUST be pulses of electromagnetic energy (meaning all substances are indeed insubstantial).

All forms of electromagnetic energy (radio, microwave, infrared, visible light, ultraviolet, X-ray, gamma) travel as waves. How do we create an analog structure like a wave from a digital structure like a pulse? By adding the necessary number of pulses to the medium in which a wave travels to form the wave's amplitude (height) and wavelength (distance from crest to crest). How could we create matter from waves? By superimposing waves of visible, gravitational*, magnetic, electrical, etc. frequencies into holograms (near the end of the '80s, the magazine "Scientific American" reported that holograms have been made not only with visible light and X-rays, but also with microwaves and sound waves).

* Einstein predicted the existence of gravity waves but they haven't been discovered yet.

If this article is correct, pulses are the basis of both waves and matter. Therefore, matter and energy would be digital in nature. Can this be extended, via superstrings, to space itself as well as to time (what Einstein called the 4th dimension - what I'll term "subspace", since I'm a fan of science fiction)? In 1917, Einstein calculated that 3 universes could exist in the cosmos: can superstrings extend the digital cosmos into a 5th dimension (let's call it hyperspace)? Assuming we live in a digital cosmos, we are reminded of that other digital entity called the computer - and must wonder if all those pulses of energy result in a cosmic artificial-intelligence that is all-powerful and present not just everywhere in space and time, but also "outside the universe" i.e. in hyperspace. The existence of such a "cosmic computer" would imply that both living and nonliving matter may be altered by programming, when people learn how to do this. Invasive

procedures such as surgery would become obsolete.

The waves of energy which holographically compose matter could be digitised and transmitted over the Internet - and the receiver's computer could be equipped with sensors to decode the mix of frequencies, as well as an assembler that reproduces this mix and radiates it to create products indistinguishable in any way from the original product (the frequency mix could also be electronically recorded). The difference between life and nonlife appears to be merely one of complexity. So after inanimate objects and parcels have been successfully e-mailed, more advanced software will be developed and allow things like fruit and vegetables, or living animal/human tissues, to be transmitted (or transported) between places (i.e. in space) and between times (the famous scientist Stephen Hawking states that time can be thought of as another spatial dimension and that time travel is a theoretical possibility - I believe it will be navigated in the future just as ordinary space is today).

This advanced software could also be used to genetically engineer people whose genes have been disassembled into subatomic, electromagnetic pulses and manipulated by computers. An opportunity to possess an eternally youthful body and a brain free of criminal tendencies may therefore exist. When we develop this electronic hardware and software, and also acquire the science-fiction-like technology of time travel, everyone who has long since died could have their minds downloaded into reproductions of their bodies and be resurrected (establishing colonies throughout space and time would prevent overpopulation).

These colonies throughout space and time would be composed of what we'd call aliens or extraterrestrials. I may be wrong but I think they'd be our descendants (our descendants could only exist before us if time is not exclusively linear) and would basically think the way we do. I've heard it said that angels rejoiced at the creation of the Earth. I don't think this necessarily has a religious meaning. I suspect it indicates a deep-seated belief in every mind, ancient or modern, that Earth really is important ... that we're not just an insignificant rock orbiting an average star. Maybe life on Earth is the starting point for development of the magnificent Universe this book speaks of ... and for extraterrestrial life that descends from us, wherever and whenever it may be found. Since they might be "separated" from Earth of 2009 by billions of light years and could also be billions of years in either our past or future, they might see our present global financial crisis differently from us and might view it this way:

“Until the 1920s, money was backed by gold in many countries (the gold standard): a pound note or dollar bill could be exchanged for a given amount of gold (hence such words on banknotes as ‘promise to pay’) and the amount of money issued by banks was related to the amount of gold held. The first bank notes issued in Europe were by the Bank of Stockholm in 1661. In the absence of general confidence that it will persist, the gold standard loses its advantages eg if it is regarded as permanent it gives almost fixed exchange rates, which facilitates international trade and credit (its disadvantages then assume control – it deprives countries of control of their own monetary policy; and makes the world money-supply depend on the rate of gold discoveries). It seems unlikely that

the gold standard will ever be restored. Money is now increasingly not in tangible form, but consists of balances in accounts at banks, exchange being by means of cheques, credit-cards or charge-cards, and by credit-transfer, where one account is reduced (debited) and another increased (credited) by the same amount electronically. Modern systems are reducing the dependence on cash, hence the emergence of the phrase, the 'cashless society'."

(from Penguin Encyclopedia, 2006 – "money" and "gold standard" articles)

The worldwide economic crisis has the potential for many political benefits, since cooperation will be the only way to maintain and improve our living standard if monetary systems fail. The crisis would encourage domestic and international peace and sharing - perhaps even paradise on earth ...

The present global financial crisis may indicate that the world we live in today has lost stability and is on the brink of changing. Therefore, this "crisis" might be necessary to awaken us to the potential of tomorrow. Just because money has been making the world go round for thousands of years doesn't mean money will be the way of the world forever. We should start looking for an alternative system to preserve, and increase, standards of living now in case we need it tomorrow (I imagine politicians are the ones with the resources and organizational ability needed to implement such a system). This scheme should not use any form of monetary organisation nor be based on gold, silver etc. It should, idealistic and naive as it appears at first, be based on mutual cooperation and the goal of ushering in a paradise on earth. We can say there can never be paradise on

earth; but the human instinct to survive is much stronger than our tendency for other types of self-interest, and greed, and to not cooperate with each other. If money ceases to be an option; most people will gladly cooperate with those we would have previously regarded as competition, or even as an enemy, if it's the only way to maintain and improve our living standard.

* added on December 11-13, 2007

Matter could be digitised i.e. disassembled into the incredibly tiny pulses of energy constituting it, without any possibility of splitting atoms and causing a destructive nuclear explosion. It could be sampled (analysed) at, say, 10^{40} (1 followed by 40 zeros) points. This scale would permit all subatomic particles to be sampled many times (billions if the object was small enough), enabling a comprehensive and detailed computer model of the matter to be constructed. It would be indistinguishable from the original matter in all respects. Such technology is only a dream today ... but the power of computers is estimated to double about every 2 years. If this rate continues, the machine I'm writing with will be well over a billion times more powerful in 60 years. And this is only an everyday desktop - imagine what a worldwide (or truly astronomical) network of specialized supercomputers will be able to sample in the year 2070 (and beyond).

"Quantum teleportation is the process of making an object's physical state vanish from one place and appear in another." (see the beginning of "Teleporting to Stargate")

Deconstructing the original object the old fashioned way might require atom-splitting and nuclear reactions. But if we use the quantum teleportation advances of the late 21st or early 22nd century, simply measuring the state of one automatically determines the state of the other regardless of how far apart they are, because the two objects are entangled. Since the original object has already been sampled and is now entangled, I believe the original has been deconstructed (digitised) nonexplosively.

Of course; if we digitised every living and nonliving thing, every speck of dust, every atom of gas, and so on, in the universe; we could create a computer model of the universe. How do we put this to practical use and gain access to every little thing that exists at any time anywhere in the whole universe (whole megauniverse, actually)? We can always access everything (unify the universe) by digitising the motions of photons (quanta of light energy) of the lasers which this page hypothesizes are used to create universes (since we're present at the creation of everything). Everything was accessed and digitised in our universe – our local section of the eternal and infinite megauniverse – 13.7 billion years ago at the time of the Big Bang. But this ONLY occurred because, centuries from now, we're going to travel to that time.

We won't need to sample, entangle and teleport in order to digitise. The entire universe can be digitised through use of the lasers and programming. Multiple images can be stored holographically today – the universe's storage of images of each living or

nonliving thing would be limitless by comparison. As a result of cosmic digitisation, you and I and all things are digital entities (actually, we're seemingly separate parts of ONE holographic/digital entity). If we grew up from birth with this knowledge, so-called supernatural miracles would be a routine part of everyday life, and we'd be astonished by the fact we appear to live in a world of separated, solid beings and objects. An email or webpage looks like something solid, doesn't it? Especially if you print it. But it starts out as just a lot of 1s and 0s (the presence or absence of electric pulses), and then a lot of pixels (the tiny units making up the picture on your screen) - perhaps the discovery of cells and atoms is only a precursor to the discovery of the digital nature of Nature. Not only does this computerised/holographic combination give a new view of relativity, quantum theory, the big bang and steady state theories, free will, and heaps of other subjects - but it's the coolest photonic or quantum computer we can ever hope to build!

Nothing Equals Everything (written September 6, 2007)

Albert Einstein first announced his Unified Field Theory in 1929, and continued working on it until his death in 1955. In it, he aimed at combining gravitational and electromagnetic equations in a single theory. Is it possible that mathematical proof of the unified field originated with Filippo Brunelleschi (1377?-1446), the Italian architect who conceived of the vanishing point, the place where parallel lines converge. This

allowed the development of perspective in art.

The theory of everything - a hypothesised theory which would combine all four forces (gravitation, electromagnetism, the strong nuclear force and the weak nuclear force) in one set of equations – is also a matter of perspective. We know parallel lines never actually converge – but if we open our eyes and look in the right places, they do e.g. the 2 lines of a railway track seem to meet in the distance. Similarly, division by zero is accepted to be mathematically impossible. But we can regard division by zero as division by nothing i.e. division that has no effect. In this case, 1 divided by 0 is 1.

But to a physicist there is no such thing as nothing, and even nothing has weight. Therefore, zero is not nothing but is something. We live in one universe of space-time. Whatever we divide it by (zero, one, two, infinity), the universe cannot be reduced because any “something” (in this case, any number) is equivalent to zero and dividing 1 by 0 is either impossible or results in 1. So we’ll still live in one universe of space-time i.e. in a unification ... a unified field embracing the theory of everything. But perspective can tell us otherwise. If we use our current understanding of cosmology and mathematics (or our physical senses and scientific instruments, which function according to that scientific and mathematical comprehension), dividing the universe by infinity will result in endless separation. “A” will be here, “B” there, “C” will exist now, “D” in the past or future, and so on.

So, to borrow the heading of this final part of “Part 1 Into Paper Walls”, nothing equals

everything. Everything therefore equals nothing and, as I said near the start of Part 1 –

“Space is nothing. On one hand, I’d give my short answer and say that after about 30 years of reading and thinking, I totally agree with this statement. On the other hand, I’d write the following long (10,000 word) answer –”

Part 2 Into Paper Walls

WHAT ARE MAGNETISM, GRAVITY, LIFE AND CONSCIOUSNESS?

After reading Bruno Maddox's article "Blinded by Science" in the May 2008 issue of the science magazine "Discover", I just can't resist writing down some ideas that flow on from Blinded by Science's article about the nature of magnetism. The beginning of this particular train of thought of mine could be said to lie with the deep fascination Albert Einstein felt when he was first shown a magnet as a child. Together with May 2008's Blinded by Science, this challenged me to find an acceptable answer to the question "What is Magnetism?" Naturally, I then started to ponder Einstein once more (this time in connection with his Theory of General Relativity and its statements about gravity). Einstein's theory never told us exactly what gravity is - and Isaac Newton, who discovered over 340 years ago that the same force which causes an apple to fall also keeps the Moon in orbit around Earth, didn't know what gravity was either. So once again

I felt challenged, and I decided I'd try to find a plausible answer to the query "What is Gravity?" A few months after these events, I started reading Mary Shelley's "Frankenstein". This latest incident prompted me to continue my "What is ..." questions (this time I wanted to know "What is the nature of Life and Consciousness?").

WHAT IS MAGNETISM?

If you read May's *Blinded by Science*, you'll notice that the rest of this paragraph borrows virtually every word from that article – I thought this would make a fun introduction to my ideas on "What is Magnetism?" Here are a few words from one of Mr. Maddox's fellow "Dummies" who no longer has a seat at the dinner table for science (so my words are purely mental exercise intended to give me and my fellow Dummies some satisfaction in this gloomy vale of misery and mystery).

Now, to return to my own words -

The origin of magnetism may lie with electromagnetic force (this sounds weird - but if you read on, you'll see that I'm not talking nonsense). It might all begin with a string of zeros and ones that produces a computer-generated hologram. That hologram includes 1) all frequencies and waves - optical, sound, electrical, magnetic, etc. etc., 2) the wave-particle duality of matter (and of light), and 3) randomness (which can also be termed mutation).

Such a hologram would ultimately be supremely flexible, bestowing digital qualities on space-time and everything in them - and making it difficult to determine precise position, especially if it was generated in a dimension outside our experience. However, people and objects could retain the appearance of solidity and definite location - and of separation (both in time and space, despite the reality of all time and space co-existing in one "place" or cyberplace). On a computer screen; events happen here, there, before, now and after though all "space-time" on the screen is united by the underlying computer code into a "grand unification" or "theory of everything".

The code would mean there is hidden order even where chaos reigns, and randomness ("God playing dice with the universe", as Einstein put it) might be a way of overcoming the total inflexibility of pre-programming and introducing a measure of free will into the universe.

Since a magnet and a piece of metal are both parts of this unification, the former can move the latter without touching it (this feat is "spooky action at a distance", to use another Einstein expression). Why doesn't anybody seem to care how it is possible for magnets to do what they do? I dunno - maybe it's because magnets have precious little to do with emotions, sex or money.

When the appropriate strings of ones and zeros establish all the magnetic fields in the universe, the randomness factor might allow the generation of other, "manmade" magnetic fields (eg when Michael Faraday was experimenting with electricity and

magnets, or when modern engineers build turbines and generators). In this Internet-like Grand Unification, there might be a computer link (hypertext connection) between electricity and magnetism: then a less obvious link unifying electromagnetism and the weak force: and so on until we discover the theory of everything.

If this unification of the universe has always existed, how could the effects of its future development from electronic and holographic technology become apparent to Pliny, Augustine, Faraday, Einstein and presentday physicist Steven Weinberg? Time travel - in the form of future technology being implemented in the distant past - would have to be a reality ... I can't think of any other mechanism. But if the unification of the universe is real, then all space AND TIME within it would be unified and time travel would obviously be possible.

WHAT IS GRAVITY?

On the face of it, gravity could be defined as the warping or curvature of space (accurately, space-time). But why should space-time be curved? Think of it as the product of a computer simulation. Then its shape and structure must be determined by a string of zeros and ones. But why should we consider the possibility that space-time results from a string of zeros and ones? If you're openminded and imaginative, it's enough to say "Why not consider the possibility?" But it won't hurt to add some comments of mine:

These comments refer to "The Day Before Genesis" (Discover magazine, April 2008). It seems to me that the layout of a few pages in this issue makes sense of our Big Bang. First, the statement "Black Holes Reveal Time Travel" (p. 53) indicates that the series of panels on p. 56 can be formed into a loop with the picture of the cosmic microwave background next to the one of modern galaxies and clusters. This loop can be constructed because space-time that permits time travel cannot be purely linear but is warped and curved. In this scenario, travel in one direction means the cosmic microwave background precedes the modern galaxies and clusters. But travelling in the other direction means modern galaxies and clusters precede the cosmic microwave background.

When we loop the universe, what is within and outside the loop? I suspect the answer is also on p. 56 viz. branes (Paul J. Steinhardt of Princeton University and Neil Turok of Cambridge University claim that our 3-D universe is part of a 10-dimensional "brane" and that cycles of expansion and contraction result from collisions between our cosmic brane and a neighboring one). If they're in physical contact with our brane, we'd find that there is actually only one universe with one set of laws of physics. Visualizing the loop on p. 56 with the view of the pages' layout making sense of our Big Bang suggests the outside of the loop contains whatever I see when I turn to the next page (58) ... and I see galaxies arranged in a map of our universe. The interior of the loop would contain whatever I see when I turn to the previous page (55). Is that our Milky Way galaxy on page 55?

How interesting!! What could it mean if the Milky Way (or indeed, any other relatively

nearby cosmic structure) is not only part of the loop of modern galaxies and clusters but also inside that loop? Does it mean quantum indeterminacy not only compels science to think of subatomic particles as not having precise locations, but will also compel science to one day think of galaxies as not having exact positions? Surely "galactic indeterminacy" would unite general relativity and quantum theory, possibly producing a universe in which space and time themselves do not exist as we understand them but are flexible and indeterminate properties "emerging" from something else.

Thousands or millions of years from now, progress in electronics and science might make it possible to journey back 13.7 billion years in this time machine we call the universe and construct a computer-generated hologram corresponding to the lumps in the extremely young universe which evolved into modern galaxies and clusters. If you believe there is intelligent and adventurous life anywhere in this universe, this would be a perfectly natural outcome of millennia of progress - there's absolutely nothing incredible or supernatural about it! That hologram includes 1) all frequencies and waves - optical, sound, electrical, magnetic, etc. etc., 2) the wave-particle duality of matter (and of light), and 3) randomness (which can also be termed mutation).

So gravity evolves from being a force that attracts objects in the cosmology of Newton to the warping or curvature of space-time in Einstein's cosmology to space-time's curves being the product of BITS (BInary digiT'S - 1's and 0's). (Gravity really can be defined as the warping or curvature of space-time, but my hope is to enhance this definition by adding understanding of the nature of space-time.)

LIFE AND CONSCIOUSNESS

What is the difference between a living organism and a newly dead organism? Motion exists in the bodily parts, and as signals between brain cells, of one but there is no motion in the other. As we have seen in earlier sections of this article, each of us lives in two worlds ... that of our everyday senses/experiences and, because we live in a Grand Unification possessing “zero separation”, that of the mysterious 5th-dimensional cyberspace where our multi-universal computer-generated hologram is constructed. So our minds have a lot to do - we need to explore the wonders and miracles of the 5-D holographic world, and also reconcile that with this old world, so it too will come to be full of wonders and miracles. And it's a good thing that we live in 2 worlds. If we were restricted to the 5-D holographic world, we would pervade all existence. Nothing from what we think of as "out there" could stimulate our brain cells and make us conscious. But like characters in a cosmic SIMS or SECOND LIFE game, we have individuality in our second world and brains that can become conscious of the first (holographic) world.

In our 4-D world (3 dimensions of space – length, width and depth – plus 1 dimension called time), motion exists universally and at quantum (subatomic) scales, and is absolutely essential. In 5-D cyberspace, there is no movement and every bit of space/instant of time exists like an individual frame of a movie (when these are displayed in rapid succession, what we call motion comes into being). Let's consider ordinary, visible light and that vacuum it travels through: space. Quantum particles like the photons

which compose light are not separate from space itself. The universe would not merely be a vast collection of the countless photons, electrons and other quantum particles within it, but would be a unified whole that has particles and waves built into it, just as a computerised hologram would have seemingly separate points built into its union of digital zeros and ones. It's necessary to suggest how this unified whole could appear to us as an infinity of different and separate entities (not only in space but also in time). If light and space were unified in a digitised hologram, the apparent velocities of light and space's expansion would differ because light would be a subroutine embedded in the main space program.

Life and death depend on which dimension the body and brain are associated with. If the 4th; there is movement of joints, beating of the heart, electrochemical signalling in axons and dendrites and synapses, and so on. If the 5th, there is no motion – the body is dead and the brain is dead. But things are strangely complicated when you live in unification possessing zero separation ... Physicists predict that the singularity at the heart of a black hole has zero volume. Since there is zero separation in space, a person's heart also has zero volume. Since locations in time are relative, a person's heart does not possess zero volume at just time A or time B, but always. We can adapt the quantum mechanical thought experiment known as Schrodinger's Cat in which the cat exists and does not exist at the same time. In general, quantum mechanics does not predict a single, definite result for an observation. Instead, it assigns a probability to each outcome as in, for example, the quantum mechanical thought experiment known as Schrodinger's Cat in which the cat exists and does not exist at the same time (a hammer which might or might not be

triggered by a source of radioactivity to break a bottle of poisonous gas both kills and doesn't kill the cat - and all these things are placed in an airtight box). This adaptation says your (and my) heart beats and does not beat at the same time. The strange complexities of living in a Unification possessing zero separation go on and on – while it may be useful to think of each of us as existing in 2 worlds (the 4th and 5th dimensions), these 2 worlds would be in the same place in a Unification possessing zero separation. If our hearts are both beating and not beating at the same time, you and I are already alive and dead simultaneously and life/death DO NOT depend on associating the body/brain with one particular dimension, but on balancing their association with all dimensions.

Locating consciousness in the activity of the brain apparently strangles the hope that we might survive the death of our bodies - unless time travel can be removed from the realm of fiction, and demonstrated to be scientifically valid in actuality. People who have long since died could have their minds downloaded into reproductions of their bodies after death – perhaps thanks to time traversing medical/scientific/electronics personnel, perhaps not in physical form - then use time travel to be alive long before birth (or to be alive and present at their time of death. If time travel is not used to be physically present at death, and I doubt that it ever would since the person has moved on to another stage of existence and must leave those still physically manifest alone to build the future [see “Part 1 Into Paper Walls”], then only the bosonic backup could be present).

Compressing the known science into a few lines, I believe the theory leading to time-travel's exhibition is -

Particles and the local universe can be regarded as closed loops of electromagnetic energy. These could be called strings or superstrings or Mobius loops (a Mobius loop can be visualised as a strip of paper which is given a half-twist of 180 degrees before its ends are joined). Remember that the top, side and bottom of each loop each consist of a miniaturised, fractal version of electromagnetic pulses forming length, width and depth (a fractal is a geometric structure having an irregular or fragmented appearance which is of a similar character at all magnifications - the word "fractal" was coined in 1975 by French mathematician Benoit Mandelbrot). The 3 familiar dimensions of length, width and height along, for example, the top of a loop would have a 4th dimension (time) perpendicular to them (on the side of the twisted paper ... or electromagnetic loop). And there would also exist a 5th dimension called hyperspace, at right angles to the 4th and 180 degrees from the length/width/height along the loop's top. The previous parts of this paragraph can be likened to astronomy's picture of the 3+1 dimensions of space-time existing on the surface of a balloon which is expanding from an inner hyperspatial point (not in space-time) where the Big Bang occurred. These loops unite space and time into space-time (popularly associated with Albert Einstein, though originally conceived by his university teacher Dr. Hermann Minkowski); and the famous scientist Stephen Hawking says time can be thought of as another space dimension, so literal time travel is a possibility. With literal time travel, people who have long since died can be resurrected by having their minds downloaded into reproductions of their bodies (establishing colonies throughout space and time would prevent overpopulation).

Thus, individual consciousness is connected with space-time. If the connection is permanent, consciousness would no longer be restricted to finite brains and its link to everything in space-time would make it free of all limitations when we learn how to use that link. By either adapting physical brains/bodies or repeating the downloading of minds (in order to bestow immortality), or using some version of the ideas scientists have proposed about cosmic holograms and cosmic computers (to unify the universe's mental, spatial and temporal aspects), the consciousness-spacetime connection could indeed be made a permanent one. Unification of personal consciousness with space-time (and thus, everyone else) would also enable annihilation of the concept of "self" and "other", as brain scans of Buddhist monks demonstrate to be possible.

Union of the concepts "self" and "other" is relevant to world peace because it concludes that everyone's life is scientifically unified with all other life beyond the range of our senses and experiences (but within the range of our understanding). It will take time, but when people accept this, world and domestic peace will be inevitable since no-one will be able to attack anyone in any manner without realizing that they're actually attacking themselves.

Part 3 Into Paper Walls

This morning, I was reading an interview in Australia's TV Week with someone

connected to the TV show "Ghost Whisperer". She said she doesn't believe in ghosts because "I like facts and figures." Well, here's a 3,000 word article I wrote which seems very relevant to that comment (the article is a blend of known science + curiosity + imagination [not fantasy] which could be seen as factual since it explains how the world and universe we can see and touch could have come into existence). It suggests that thousands or millions of years from now, progress in electronics and science might make it possible to journey back 13.7 billion years in this time machine we call the universe and construct a computer-generated hologram corresponding to the lumps in the extremely young universe which evolved into modern galaxies and clusters. If you believe there is intelligent and adventurous life anywhere in this universe (even on Earth!), this would be a perfectly natural outcome of millennia of progress - there's absolutely nothing incredible or supernatural about it! Before you conclude I'm talking science fiction or fantasy, please carefully consider the science my article is based on.

The universe producers of thousands or millions of years from now would be incredibly different from the people of 2009. Their ability to ignore the "necessities" of matter (such as spacecraft and solid surfaces to walk on), travel anywhere in space and time, as well as other abilities we can't even imagine; surely qualify them to be described by us as ghosts. A conceivable means of becoming a ghost is that future particle physics might develop a way of creating a backup (to borrow a term from the world of computers) composed of bosons or force-carrying particles such as the photons which comprise electromagnetic waves. This backup would be absorbed by the physical body during what we know as life and would often be referred to as the soul - though the word "soul" should, I think, refer

to the union of material and immaterial body and we could properly be termed individual souls. People who have long since died could have their minds downloaded into reproductions of their bodies after death – because of medical/scientific/electronics personnel utilizing the unification of all spacetime - then use time travel to be alive long before birth or to be alive and present at their time of death, if only in the form of their bosonic backup.

An alternative method for creating a backup relies solely on the mind. It could use the knowledge that there is no separation between anything in space or time to incarnate in any body or bodies it chooses. In this alternative, the backup wouldn't be composed of anything and there would be nothing which could be called the soul. Now for my article -

DISCOVERING THE UNIVERSE'S SECRETS UNIFIES SCIENCE, RELIGION,
MEDICINE AND EVERYTHING ELSE.

After suffering any kind of illness or injury, an approach which enlists mind-body unity and all 5 dimensions in the universe is essential to a complete and lasting recovery. (Later in these comments, I'll explain that belief in 5 dimensions arises from equations worked out by Einstein and that, remarkably, there is absolutely no difference between these 5 and the 10 dimensions of physics' superstring theory - except for scale, which the explained fractal nature of our universe makes relatively unimportant since the

microscopic and macroscopic worlds are merely the same irregular, fragmented shapes of fractal geometry repeated at different magnifications). The 3 space dimensions of length, width and height plus the 4th dimension we call time are handled admirably by the doctors and nurses involved in any necessary surgery and followup medical treatment (their efforts are aided by eating well, sleeping well, doing daily exercises, not smoking etc.) The 5th dimension seems to be responsible for unification of the entire universe * - a pursuit started in earnest with Einstein's attempt to find a "unified field theory" and continued by scientists to this day (the best known modern contender would be physics' string theory). "Unify" means "make into one" or "form into a unit". So in a truly unified universe, there can be no distance between any physical or non-physical entities in space or time (otherwise, there would be more than one entity in the universe and it would not be unified). Thus, zero separation must exist between all things (this is similar to 2 objects which appear distant from each other on a huge computer screen actually being unified by the strings of ones and zeros making up the computer code which is all in one small place). Therefore, there is no separation between a person and health (or indeed, sickness). But the conscious mind can choose one or the other, and I choose to be healthy. Everything can be done perfectly in the first 4 dimensions but to be assured of the desired outcome, we must not ignore reality and the 5th dimension (of course, consciousness has its limits too and we have to let our unconscious minds guide us to health, just as our conscious minds alone have little to do with eg maintaining a normal heartbeat). Of course, all this could be dismissed and a person's health attributed to the placebo effect. But doesn't it make more sense to accept the wonders of a 5th dimension than to assume placebos can work actual miracles? (Or maybe these paragraphs merely

attempt to detail how the placebo effect works?)

* According to the 1973 book ALBERT EINSTEIN: CREATOR AND REBEL by physicist Banesh Hoffman and Einstein's secretary Helen Dukas, mathematical equations developed by Einstein in 1917 say a maximum of 3 "subuniverses" could exist in our cosmos: here, I'll refer to them as SPACE (embracing the 3 dimensions of length, width and height), TIME (the 4th dimension) and HYPERSPACE (the 5th dimension). Particles and the universe can be regarded as closed loops of electromagnetic energy. These could be called strings or superstrings or Mobius loops ** (a Mobius loop can be visualised as a strip of paper which is given a half-twist of 180 degrees before its ends are joined). Remember that the top, side and bottom of each loop each consist of a miniaturised, fractal version of electromagnetic pulses forming length, width and depth ^^ (a fractal is a geometric structure having an irregular or fragmented appearance which is of a similar character at all magnifications - the word "fractal" was coined in 1975 by French mathematician Benoit Mandelbrot). The 3 familiar dimensions of length, width and height along, for example, the top of a loop would have a 4th dimension (time) perpendicular to them (on the side of the twisted paper ... or electromagnetic loop). And there would also exist a 5th dimension called hyperspace, at right angles to the 4th and 180 degrees from the length/width/height along the loop's top. The previous parts of this paragraph can be likened to astronomy's picture of the 3+1 dimensions of space-time existing on the surface of a balloon which is expanding from an inner hyperspatial point (not in space-time) where the Big Bang occurred. These Mobius loops unite space and time into Einstein's space-time (and add a 5th dimension, which was introduced in a

letter to Albert Einstein written by Theodor Kaluza). He proposed that Einstein's dream of finding a unified theory of gravitation and electromagnetism might be realized if he worked his equations in five-dimensional space-time. Einstein scoffed at the idea at first but later reconsidered and helped Kaluza get his paper published. A few years after that, physicist Oskar Klein published a quantum version of Kaluza's work. In the 1970s, the resulting Kaluza-Klein theory turned out to be beneficial in working on supersymmetry (a postulated unifying relationship between elementary particles).

**** Why can particles and the universe be considered as Mobius loops? The 1st reason this seems possible is - all particles in the universe have a property called spin which is related to, but not identical with, the everyday concept of spin. In the case of particles of matter, according to the book "A Brief History of Time" by mathematician and physicist Stephen Hawking, this spin is said to have a fractional value of $1/2$ which means they "do not look the same if one turns them through just one (complete) revolution: you have to turn them through two complete revolutions!" Similarly, you have to travel around a Mobius strip or loop twice to arrive at your starting point. The 2nd reason it seems possible is - the concept of "dark matter" would be used today to explain the increased gravitational effects caused by undetectable matter. But that undetectable matter would not be a new, unknown form of matter - it would be known particles travelling through the 4th and 5th dimensions (and therefore nonexistent in the 3 dimensions of ordinary space). While in these other dimensions, the particles known as dark matter are invisible ... but would of course still exert gravitational influence. (Physics' string theory states this by saying "Gravity may not be confined to 3 dimensions.") If particles circulated ^ within**

the universe in a simple circle, they would spend almost as much time being visible as invisible. But the circulation of electromagnetic pulses following a Mobius-shaped path in a particle would be an example of fractals (phenomena repeated on ever-decreasing scales). So, increasing the scale from pulses in particles to particles within universes, particles follow a Mobius-shaped path in universes - and they could easily spend between 10 and 25 times longer being invisible than visible. In this case, only 4% to 10% of the universe's content could be ordinary, non-dark matter (as NASA's Wilkinson Microwave Anisotropy Probe revealed a few years ago).

^^ Why would the top, side and bottom of each loop each consist of a miniaturised, fractal version of electromagnetic pulses forming length, width and depth? Because the universe seems to be made of fractals and the microscopic world of pulses is therefore mirrored by our macroscopic world. The first paragraph stated, in a truly unified universe there can be no distance between any physical or non-physical entities in space or time (otherwise, there would be more than one entity in the universe and it would not be unified). We can already travel ^ in the 3 dimensions of ordinary space, so in a universe where all the dimensions form a unity, sooner or later we'll learn to travel in 4th dimensional space (time) and 5th dimensional hyperspace (which appears to be the location of the Big Bang our part of the universe is expanding from and may well be the location of "strings of ones and zeros making up computer code" that creates the universe's unification and zero separation in space and time). If we journey in these other dimensions, they must have spatial coordinates for us to navigate in (length, width and depth in time and 5D as well as familiar 3D - if we choose, we can therefore say the

universe has 9 dimensions - and the zero separation unifying these 9 can be regarded as a 10th dimension).

^ Electromagnetic pulses would continuously circulate from each of the 3 familiar dimensions through the 4th and 5th, and back to the 3; producing a unification. This circulation means any particle interferes with itself. The circulating pulses unite the 3 dimensions of space with the 4th dimension of time ie today's vastly expanded universe is united with the highly compressed, subatomic-sized universe of the past; as well as with the 5th dimension of our universe's space-time generating Big Bang. In our 4-D world (3 dimensions of space – length, width and depth – plus 1 dimension called time), motion exists universally and at quantum (subatomic) scales, and is absolutely essential. In 5-D cyberspace, there would be no movement if the fifth dimension truly is the location of strings of ones and zeros creating unification and zero separation (this is relevant to world peace because it concludes that everyone's life is scientifically unified with all other life beyond the range of our senses and experiences [but within the range of our understanding]. It will take time, but when people accept this, world and domestic peace will be inevitable since no-one will be able to attack anyone in any manner without realizing that they're actually attacking themselves.) Every bit of space/instant of time exists like an individual frame of a movie (when these are displayed in rapid succession, what we call motion comes into being). Let's consider ordinary, visible light and that vacuum it travels through: space. Quantum particles like the photons which compose light are not separate from space itself. The universe would not merely be a vast collection of the countless photons, electrons and other quantum particles within it, but

would be a unified whole that has particles and waves built into it, just as a computerised hologram would have seemingly separate points built into its union of digital zeros and ones. It's necessary to suggest how this unified whole could appear to us as an infinity of different and separate entities (not only in space but also in time). If light and space were unified in a digitised hologram, the apparent velocities of light and space's expansion would differ because light would be a subroutine embedded in the main space program (speaking of circulation, travel, expansion or velocity would simply be a convenience, like talking of the sun rising and setting).

A megauniverse is hinted at by Einstein's equations as well as cosmology's Steady-State theory, which say the universe has always existed and will continue forever. Einstein spoke of a "static" universe (which accurately describes a megauniverse that has no limits in space and has always existed/will continue forever), but he thought of this local branch as static, and rightly called it his greatest mistake since the local universe is now known to have had a beginning and to be expanding. Each universe arises from a big bang, but the megauniverse they belong to has no beginning (thanks to time-travelling cosmogenesists) and no end (thanks to energy influxes from later big bangs which "create" other regions of space-time: these influxes are known as dark energy). And it maintains its average density through continuous "creation" (actually, recycling) of matter via the small amount from a preceding universe which is used to initiate expansion of its successor. This steady-state, or static, megauniverse would have its tendency to collapse (from, according to the viewpoint that only one time exists at any instant, ever-increasing gravitational attraction) always exactly balanced by, again from the viewpoint

that all times cannot exist at once, the ever-increasing expansion of the universes it contains. The notion that contained universes that are forever expanding would somehow "burst" a static, steady-state megauniverse mistakenly assumes the megauniverse possesses a finite size; and it also reverts to our everyday experience that only one time exists at any instant (forgetting that all times exist and the megauniverse therefore accommodates not just some, but all, extents of expansion). Also: the megauniverse can be static even though it's composed of expanding universes because of its literally infinite size which results from cosmogenesisists being able to access unlimited points in both space and time. People can be resurrected long after death (by having their minds downloaded into clones of their bodies by scientists utilizing the unification of all space and time) then use time travel to be alive long before birth - similarly, universe producers can journey to points existing before origin of the particular universe they live in. Since the megauniverse is infinite, there's always a place and time for them to go to - we need to abandon our purely linear or serial concept of time which says universe B can only come into existence after universe A's origin, and embrace a holistic or whole-istic concept where universes B and A (and all others) coexist. The quantum mechanical thought experiment known as Schrodinger's Cat in which the cat exists and does not exist at the same time (a hammer which might or might not be triggered by a source of radioactivity to break a bottle of poisonous gas both kills and doesn't kill the cat - and all these things are placed in an airtight box) helps us understand "life before birth" and "later universes preceding earlier ones". We can regard the cosmic hologram and the megauniverse as examples of invariance (the quality of not changing) and the hologram's relativistic property of appearing different from differing vantage points as represented

by the expanding universes with their big bangs.

I'd like to suggest that Charles Darwin's evolution has far greater consequences than either he or any scientist has realized. I believe the theory is not limited to biology, but is absolutely fundamental to the very existence of our universe and everything in it i.e. to cosmology, space-time, physics, mathematics, etc. etc. In a vital way, it even goes beyond Albert Einstein's ideas since these paragraphs conclude that a "mutation factor" (also referred to as a "randomness factor") is fundamental to the universe. In other words, Einstein was wrong when he said "God does not play dice with the universe" (he believed there could be no randomness, or mutation, in the fabric of space-time).

Imagine the universe is the ultimate hologram. A tiny part of the universe, such as a card in your wallet or purse, can display a number of holographic images (each is revealed when light hits the card in the correct position). The universe's programming is so sophisticated and powerful - I'm comparing the universe to a combination of computer and hologram technology - that every state of everything has its own image (which is accompanied by qualities called sound, electric charge, magnetism, gravity, mass, etc. etc.) Each image (and its companion properties) is revealed when our limited perceptions/experiences/instruments/mathematics interact with an aspect of the universal programmed hologram. Such technology is only a dream today ... but the power of computers is estimated to double about every 2 years. If this rate continues, the machine I'm writing with will be well over a billion times more powerful in 60 years. And this is only an everyday desktop - imagine what a network of specialized supercomputers will

be able to achieve in the year 2070 (and beyond). (In computer art, randomness is introduced into the chain of repetitive calculations producing a mountain range so a convincingly rugged image will result.)

Mutations/randomness in the code behind the universal Programmed Hologram permit a degree of free will. Since we can control our movements, this means we have influence over mutations and programming. It is not the muscles in our arms/legs which influence the Hologram Program, but the signals in our brains. So why can't we ordinarily and effortlessly move external objects with our thoughts, disregarding distances in space or time? This could be answered by my belief that we all live in 2 worlds. The universe would actually be a unified field at the deepest level of reality ie from the perspective of the holographic world. But superficially (from the viewpoint of the world of space-time we know through our everyday thoughts and senses and experiences), we cannot disregard distances in space or time, and we need our legs and arms. My writing seeks to merely modify both Darwin's theory of evolution and the concept of Intelligent Design, and show that these modifications enable the concepts to coexist. I believe all life (you, me, everyone) and everything shares the "common ancestor" of the intelligently-designed universal hologram and mutations/randomness are essential for our development.

Speaking of Intelligent Design - The concept of God intrigues me because I believe it's related to the nature of the universe. I believe everything in space and time is connected by infinitesimal pulses of energy that are many millions of times smaller than anything that even the most powerful microscopes can reveal (this is similar to the way everything

on a computer screen is connected by pulses of electricity, and spacetime's energy pulses are the basic units constituting the motions or currents within what physicists call "heterotic superstring theory"). Maybe the "sea of energy" in the universe causes those qualities which churchgoers say are God's. These are qualities like being everywhere in space-time (as well as outside space-time, in what I've referred to elsewhere as hyperspace), having unlimited power and knowing everything (the universe would be filled with something similar to advanced computers' Artificial Intelligence). This is one explanation of God (it's my favourite, because it agrees with the Islamic (Moslem) Koran, and the Bible, that there is only one God). A second one is that I'm certain humans will eventually be capable of creating universes, using presently-incomprehensible mental abilities, and genetically engineering themselves/travelling anywhere in space or time to establish colonies on other planets in the present, past and future. Maybe this 2nd explanation is a description of the word "Elohim" (a name used in the Old Testament for God) ... Elohim means the "plural majesty of the one God". In a cosmic unification, all of humankind would be a plurality constituting one being - but we could not say humans are God because the rest of the universe is also included in this plurality or unification. (God would have a personality because of the One Being's partially-human composition.)* Speaking of "us" and "others" is simply a matter of convenience coz in reality, everyone springs from the one source - the software behind the universal and megauniversal hologram; and Hindu Tantrism would correctly state that unity of the worshipper with the worshipped is ultimately achieved.

* In these paragraphs, I'll refer to God as "the Universe" since it's my wish to speak of

the One Being's existence in terms of science. I fear that using any term except "the Universe" would be interpreted as a sign that I secretly want to start a new church or endorse one that already exists. I do not want either of these things under any circumstances!!

Our first inclination when confronted with the statement "the Universe has a personality because of its partially-human composition" might be that, since there have been and will be many billions of different human personalities each wanting and needing different things, the Universal personality must be psychotic and suffering from the extremely rare mental illness known as multiple personality disorder. But think of it like this – the normal human brain is made up of billions of cells, each having its distinct nature. But they join to create an integrated, functional unit. Similarly, the billions of humans/unknown numbers of humanoids join to create the superhuman Universe's functioning, normal "brain".

The Universe is the sum of everything that has ever, or will ever, exist ... integrated into an eternal present where everything exists right now. If humans were the eternal present, nothing from what we think of as "out there" could stimulate our brain cells and make us conscious. But we have our place - we are capable of learning and improving ourselves, and we have individuality in our "second" world with brains that can become conscious of the "first" (holographic) world. Each piece of a hologram stores information about the whole image – so every piece of the Universe (whether a president, a housewife, a member of any particular religion, an atheist, a galaxy, an atom, a grain of sand, even a

murderous dictator ...) contains information about the whole Universe at every stage of its being and is an indispensable part of that being.

Just as you would preserve every one of your brain cells in perfect health forever if you knew how, the Universe will freely give eternal life to every human that was or will be an essential part of its being ie to everyone, without a single exception. This does not mean we can do anything we want – we are part of the Universe, and it's moral duty to do our best to fulfil that responsibility (in the case of the murdering dictator, I believe a future version of genetic engineering will give him, as expressed in “Gates > sGate > SGATE > STARGATE”, “a brain free of criminal tendencies”). But it does mean we have no reason to reproach ourselves for stupid mistakes made in the past. The Universe has forgiven us since it sees fit to give us healthy immortality – so we must forgive ourselves and use our learning abilities to become more worthy of our roles as parts of the One Universe.

Poems for the New Cosmic World

THE PEACOCK GOD

Rod is in his Room, pondering over methods diverse

For building a New Earth and New Universe.

He knows there are no solid, separate things:

Only one, unified hologram-thing.

Could the beautiful peacock be the answer he's seeking?

Spacing between protein crystals in the bird's tail feathers

Diffraction light, and gives many splendid colours.

Everything in space and time results from a hologram - from light

Which has radio, visible and X-ray wavelengths: and might

Be diffracted by spacing between our brain waves

(By assumed nonexistent future selves)

Not only splendid colours giving us

But anything we wish giving us!

Throw away pills and surgery, technology and money -

We won't need them in the New Earth and Uni.

Does our spacing (do our future selves) use cerebral band-gap bodies

To break up (digitise) light in the form of matter, force and energies

And selectively add and delete holographic frequencies?

5 FACES OF KAL

Kal-el was born on planet Krypton;

His Dad was Jor-el, his Mum Lara.

Their globe exploded and Kal was sent to Earth: 3rd rock from the sun;

And to new parents, Jon and Martha.

Kal-el became Clark Kent, with a job at the Daily Planet;

Of all the news that was news, Lois and Clark were the reporters.

A unique idea was aroused in his mind by the Internet;

Tiny energy pulses fill all space, as if in the hard-drives of computers.

Utilising cosmic pulses, Clark performed many a superdeed.

Look! Up in the sky. Is it a bird ... is it a plane ... no, it's Superman!

Faster than a speeding bullet, in his bare hands he bends steel.

His abilities are far beyond those of mortal man.

Kal-el left for the plains of ancient Greece

(He could coz he realised energy pulses also comprise time).

There they called him Hercules,

The god with the supermind.

Kal-el left for the rainbow's end in the 44th century,

Where he met a young woman named Kari.

Science had combined all forces but gravity in the Grand Unified Theory,

Then added gravity to the previous 3 to form the Unified Field Theory.

Clark's idea of energy pulses transformed into the idea of zero separation
Between objects in space-time (the revolutionary UFT 2nd version).
So he and Kari (and the rest of the world) are each other, in fact;
Just as UFTv2 unites the Relativist and Quantum Mechanic.

WORLDWIDE FRIENDSHIP

President Obama said "Can we change the world? Yes, we can."
Bob the Builder said "Can we build it? Yes, we can."
Little Red Engine choo-chooed up the hill and said "I think I can! I think I can!"
Kari said "I think we can change the universe - or build it as it is. Yes, we can."

There is, under heaven, a time to every purpose
In the infinite space of this and that cosmos.
A time for love and a time for war;
And a time for the world, that deserves more.
Pres and Bob and Red and Kari - the world needs new order
That can never see any more war.

As for now, times are not fortuitous

For resolution of the global economic crisis.

There's greed and self-interest in the American and the Asian;

Selfishness and noncooperation in the European and the African.

Once upon a time, Africa and America joined to produce slavery.

Once upon this time, they joined in the leader of a great democracy.

All lands (and the economists) will soon see the light;

In cooperation every male and female must unite.

Like children learning to walk, greed and war must fall -

From mistakes we learn, and unite the world!

SUPER EVOLVING CREATION

Kari - formerly Kara, futurely Supergirl - began collecting soft drink tins;

In weight they were about 20 lbs. the scales told her.

Her final plan addressed cosmic origins;

The first step is to blast the tins with a laser accelerator.

Where, once upon a time, there was lemonade;

The first of many mini black holes was made.

Energy poured into the hole and condensed into substance material

(Coz energy equals mass times the square of light's velocity).

This matter was actually a hologram controlled by space-time's digits binarial;

It merely appeared to possess separateness and solidity.

Obeying programs written with the bits of time and space,

The hologram emerged as space, subspace and hyperspace.

By programming the Cosmic Computer after travelling back in time

(Back 13.7 billion years) to initiate expansion of space and time;

Kari, according to some, is the Creator of the universe.

But there's more to the story; Creation is the story of all - not just hers.

She and her friend Be-el were in a team called Drivers of Genetics:

They combined time-travel technology with that of the biotechs

To synthesise cells, plants, animals and humans millions of years ago;

Making evolution the modifier, not originator, of life and ego.

Be-el concluded, after the initiation of universal expansion,

That every brain is connected to all of space-time's information.

Abusing the knowledge, he influenced each thing for his own benefit.

Compassionately, Kari used her mind for your and my benefit.

Some Drivers followed her and femininity, some him and maleness.

Each mind psychokinetically adjusted its body, making them immortal

(A talent described as Cosmic Consciousness);

So the dispute between abuse and compassion was eternal.

Be-el took the initials from Drivers of Genetics and was referred to as DOG;

While Kari reversed those letters because she claimed to be the anti-dog.

In the 20th century New Age, her name became Universe;

Anyway, Girl Power means the universe is still hers.

Short Story for the New Cosmic World

Superman Meets Superdoc

“Call a doctor!” George exclaimed excitedly . . .

Superman had discovered he was no man of steel and there wasn't a speck of kryptonite to be found anywhere. During a break in rehearsals, George - the actor who plays the one who's faster than a speeding bullet - had gone backstage by himself, attached a silencer to a loaded pistol he'd secreted behind the curtain, held the gun to his temple and coolly pulled the trigger. Miraculously, he didn't lapse into unconsciousness until he'd cried out for a doctor.

Rushing backstage, the producer faced the tragic scene, realised what the muffled sound reaching her ears had been, and momentarily froze in astonishment: “It makes no sense at all! Lately, George has been even happier than usual. Could he have actually believed he'd be able to move his head away before the bullet reached it?”

At the hospital, George was immediately prepped for surgery. Doctor Crusher lamented that there was no time to do an MRI. The patient's life could not be stopped from ebbing away while one of the world's most skilled neurosurgeons awaited Magnetic Resonance Imaging scans which would reveal the projectile's exact path of destruction. Not that it mattered - before she'd finished scrubbing, George was clinically brain dead.

Apparently numbed to tragedy by the reality of confronting it daily, most of the staff returned to their routines: the emptiness inside each of them would have to wait until the doctors and nurses were off duty before it could be dealt with. Dr Crusher, though, stayed. “I can still save him, if I get in the O.R. quickly enough! All I need is a few seconds with the patient; the opportunity to do some lab work; and that gizmo I invented after being inspired by, of all things, the movie Ghostbusters.”

In the operating room, she picked up a wooden spatula and obtained a sample of cells from the inner lining of the mouth. Then she dismissed the few remaining attendants with “You may all leave now, I'll finish up in here.” After the last attendant strode out and she heard the outer door close, she grabbed the shoebox-size Ghostbusters gizmo kept inside a locked panel of one of the many high-tech machines.

Flipping a switch caused its ultra-sensitive electronics to search out George's nonphysical backup - his soul, if you like – which had been constructed from the photons that transmit electromagnetic energy and was, according to Dr. Crusher's previous hypothesising, now separated from his physical being and pausing in the room for a few minutes while getting its (or his) bearings. When the display registered George's location, he was data-compressed (a process which, in effect, miniaturised him) and stored in the gizmo's electronic memory. From the O.R. the doctor went straight to the hospital's remarkably well equipped laboratory, where the spatula's cells were genetically engineered to prevent illness and ageing, and to increase the rate of healing a trillionfold, then cloned into a replica of George's old body. “Nice”, thought Dr. Crusher, “but without my Ghostbusting gizmo, this would only be a 21st century version of Dr. Frankenstein's monster.” She reversed the gizmo so George's BITS (space-time equivalents of computers' BInary digiT^S) were data-expanded and downloaded into the clone.

So the actor's encounter with a speeding bullet ironically transformed him, via the futuristic biotechnology performed by a Superdoc, into a virtual man of steel.

The Real Thing: A Way to make New Earth / Universe Without Lasers

"The Real Thing" is another 1969 Australian hit record performed by Russell Morris,

written by Johnny Young and produced by Ian ("Molly") Meldrum.

“20 Things You Didn’t Know About TIME” (Discover magazine - March 2009) says in #1: “Some speculative new physics theories suggest that time emerges from a more fundamental – and timeless – reality.” (see examples below) Since time can’t exist in isolation but is part of space-time, space must also emerge from a more fundamental – and spaceless – reality. Therefore, “The Great Cosmic Census” in the same issue may be producing the most detailed sky map ever made as far as our physical senses and brains are concerned (the Sloan telescope is merely an extension of our senses and brains). But the resulting map would be saying nothing about fundamental, spaceless reality. And all the learned psychology and neuroscience in “Brain Trust” in that issue would similarly be saying nothing about fundamental, spaceless and timeless, reality. Maybe we should throw in the towel and admit that 100% of the universe (galaxies, telescopes, brains and so on) is dark matter which we don't understand – the evolutionary process in that edition's “The Long Shadow of Darwin” could be reinterpreted as incomprehensible dark energy.

Of course science isn’t going to run up the white flag. There is a way out of this dilemma, and scientists are currently investigating it. It’s the unified field theory which, to solve this puzzle, needs to be coupled with a phenomenon hinted at by Einstein’s equations – zero separation. A computer simulation of the universe could create all the effects of space and time but would itself be timeless and spaceless (being a collection of ones and zeros that never requires moving to a different position; and not being a physical object).

Such a simulation can only come into existence if we continue to study outer space, the workings of the brain, and all branches of science – then produce the simulation on a vast network of supercomputers (in centuries to come, quantum computing and Moore's Law and who-knows-what-other electronic advances should enable each member of the network to be literally countless trillions of times more powerful than any entire supercomputer network existing today). Then we'll have a fundamental, spaceless and timeless, reality which can be incorporated into a unified field with zero separation. This simulation would be entangled with the universe and act quantum mechanically (see Part 1 Into Paper Walls) – it would act like a subatomic particle that can instantaneously affect another particle many billions of light years away (or, obeying space-time unity, instantly affect a particle billions of years in the past or billions of years in the future).

Thus instantly directing matter, energy and forces anywhere in the universe at any point in the past, present or future; the supercomputing network would be a spaceless and timeless basic reality from which space-time would emerge (since the universe is a unification possessing zero separation; every bit of that matter, energy and force would feed back* into the computer network and be simultaneously directing IT, ensuring that history and the future could never be changed and the "grandfather paradox" is no problem after all). Of course, many things in history or even the present are not understood well and might even be regarded as myths or legends. It's possible that the true nature of these things is that they've been influenced by the future quantum-mechanical supercomputing network, just as the proliferation of new biological species in the Earth's Cambrian Period of more than 500 million years ago and the exact nature of

events in our local universe's recent Big Bang may have been (for instance, the formation of galaxies happened much sooner than scientists expected). Once these influences occurred, if they occurred, history was "set" and could never be altered. We've seen that all motion is a convincing illusion. So we can argue that nothing in the present can ever change either. Such an assumption returns us to the unchanging ultimate reality of Parmenides and Zeno of Elea's "absurdity of reality being made up of many changing things".

We can produce this quantum-mechanical supercomputing network as soon as the succeeding centuries grant us sufficient computing and scientific knowledge plus realization of the Grand Unified Theory followed by the Unified Field Theory followed by practical combination of unification not only with quantum mechanics and General Relativity but also with zero separation (first implicitly suggested in Special Relativity, as I understand). If you're impatient, just remember that all the scientific and computing knowledge is united with us and has no separation from us right now – I'm sure people, being ingenious creatures, will gain access to it much sooner than expected (perhaps in years instead of centuries). And I'd expect this new science to reach into areas once reserved for religion and philosophy.

^ Suppose a man travelled back in time and killed his biological grandfather before the latter met the traveller's grandmother. As a result, one of the traveller's parents (and by extension, the traveller himself) would never have been conceived. This would imply that he could not have travelled back in time after all, which in turn implies the grandfather

would still be alive, and the traveller would have been conceived, allowing him to travel back in time and kill his grandfather. Thus each possibility seems to imply its own negation, a type of logical paradox.

(From the article "Grandfather paradox" - Wikipedia, the free Internet encyclopedia)

* Feedback is the returning of a part of the output of any system (mechanical, electronic or biological) as input - especially for correction or control purposes, or to alter the characteristic sound of musical instruments. The input of a signal into a microphone from the output of the same system can cause a high-pitched screech, or feedback to the controlling device is used by the device to correct errors if eg the path of a guided missile is not what it's supposed to be or temperature - of a room or a person - is too high or low. (from "The Macquarie Concise Dictionary", 1998 and "The World Book Encyclopedia", 1967)

In a universal zero-separation unification; the feedback of matter, energy and force into matter, energy and force is also likely to produce distortions and corrections. Instead of microphones' high-pitched screeches or control of missiles' trajectories, we could see blurring/smearing/indeterminacy in positions and velocities on all scales (subatomic, human, galactic) because effects influence causes and because the universe consists of fractals (phenomena repeated at all magnifications, from the tiniest to the grandest). See this sentence in "What is Gravity?" - "Does it mean quantum indeterminacy not only compels science to think of subatomic particles as not having precise locations, but will also compel science to oneday think of galaxies as not having exact positions?"

The feedback of matter, energy and force into matter, energy and force would also control any conceit or delusions of greatness by those operating the future quantum-computer network which directs matter, energy and forces anywhere in the universe at any point in the past, present or future. It would feed back into the computer network and be simultaneously directing IT - I believe this would ensure history could never be changed! As previously stated, "we could not say humans are God because the rest of the universe is also included in this plurality or unification".

Example # 1 - As Carlo Rovelli (a physicist at the University of the Mediterranean in Marseille, France) explains it, in quantum mechanics all particles of matter and energy can also be described as waves. And waves have an unusual property: An infinite number of them can exist in the same location. If time and space are one day shown to consist of quanta (individual units), the quanta could all exist piled together in a single dimensionless point. "Space and time in some sense melt in this picture," says Rovelli. "There is no space anymore. There are just quanta kind of living on top of one another without being immersed in a space." Rovelli has been working with one of the world's leading mathematicians, Alain Connes of the College of France in Paris, on this notion. Together they have developed a framework to show how the thing we experience as time might emerge from a more fundamental, timeless reality.

Example # 2 - In the universe of English theoretical physicist Julian Barbour, every moment of every individual's life— birth, death, and everything in between— exists forever. Barbour fully realizes how outrageous the notion of a world without time sounds. "I still have trouble accepting it," he says. But then, common sense has never been a reliable guide to understanding the universe— physicists have been confounding our perceptions since Copernicus first suggested that the sun does not revolve around Earth. After all, we don't feel the slightest movement as the spinning Earth hurtles around the sun at some 67,000 miles per hour. "He has some wild ideas, but he definitely knows what he's talking about when it comes to these fundamental issues," says Carlo Rovelli. Lee Smolin, a North American theoretical physicist best known for devising the proposed Loop Quantum Gravity, agrees: "Barbour is one of the few people I know who went out on their own and succeeded in doing several things that were important and would not have been easy to do in a conventional career."

To conclude this section, here are a few beliefs of the ancient Greek philosophers who lived approximately 2,500 years ago which are relevant to "A New Earth and A New Universe" (from "The World Book Encyclopedia" and Bertrand Russell's "A History of Western Philosophy") –

The philosopher and politician Parmenides (c.515 BC - c.445 BC) headed the Eleatic school of philosophy; named for Elea, a Greek colonial city in southern Italy. He

concluded that the changing world, visible to the senses, is too perishable and unstable to be ultimate reality. He said that the Real implies an unchanging Being and that the real Being was never born and will never die. It simply is. (reminds me of "In a cosmic unification, all of humankind would be a plurality constituting one being - but we could not say humans are God because the rest of the universe is also included in this plurality or unification" in Part 3 Into Paper Walls.) The doctrine of Parmenides was set forth in a poem "On Nature". He considered the senses deceptive, and condemned the multitude of sensible things as mere illusion. The only true being is "the One" which is infinite, indivisible and the whole of it is present everywhere. This last point seems to anticipate invention of the hologram (each piece of a hologram stores information about the whole image).

Zeno of Elea (490? - 430 BC), in his "Paradoxes", tried to prove the absurdity of motion and of reality being made up of many changing things. This is reminiscent of my statement "In 5-D cyberspace, there is no movement and every bit of space/instant of time exists like an individual frame of a movie (when these are displayed in rapid succession, what we call motion comes into being)" in LIFE AND CONSCIOUSNESS.

Heraclitus (533 - 475 BC), though I think he was incorrect in his belief that change is the basic reality, said that "Mortals are immortals, and immortals are mortals, the one living the other's death and dying the other's life." This is reminiscent of my seemingly ridiculous statement "If our hearts are both beating and not beating at the same time, you and I are already alive and dead simultaneously ..." (in WHAT ARE MAGNETISM,

GRAVITY, LIFE AND CONSCIOUSNESS?)

The philosopher and mathematician Pythagoras (580? - 500 BC) believed that numbers constitute the true nature of the universe (reminiscent of "there would be no movement if the fifth dimension truly is the location of strings of ones and zeros creating unification and zero separation" in Part 3 Into Paper Walls). Combine Parmenides' belief in the One with the Pythagorean belief in number being the essence of the universe and you have the foundation of Part 1 Into Paper Wall's conviction that "the building blocks making up the universe are a combination of electromagnetic pulses (forming a cosmic computer which includes randomness and thus the potential to escape rigid preprogramming, and have a free will) as well as lasers' reference/object beams (forming a cosmic hologram)."

Socrates (469 - 399 BC) said thought is best when the mind is gathered into itself, and is not troubled by sounds or sights or pain or pleasure. This point of view excludes scientific observation and experiment as methods for the attainment of knowledge. The experimenter's mind is not "gathered into itself", and does not aim at avoiding sounds or sights. Socrates' viewpoint reminds me of "Therefore, observation and experiment would be less dependable guides to how the universe works than the power of the mind using those methods [by building on the discoveries of observations and experiments, the mind's power reveals the long-sought unified universe]" in Part 1 Into Paper Walls. It also makes me think of "Such a simulation can only come into existence if we continue to study outer space, the workings of the brain, and all branches of science – then produce the simulation on a vast network of supercomputers ..." in The Real Thing. "Building on

the discoveries of observations and experiments” plus “...produce the simulation on a vast network of supercomputers ...” reminds us that Socrates’ viewpoint needs to be blended with the empiricism of English philosopher John Locke (1632-1704): empiricism says experience is the only trustworthy source of knowledge.

PS for medical and surgical folk - how physics' unified field theory and 5th dimension can produce physical and reproducible results

After suffering any kind of illness or injury, an approach which enlists mind-body unity and all 5 dimensions in the universe is essential to a complete and lasting recovery. (Later in these comments, I'll explain that belief in 5 dimensions arises from equations worked out by Einstein and that, remarkably, there is absolutely no difference between these 5 and the 10 dimensions of physics' superstring theory - except for scale, which the explained fractal nature of our universe makes relatively unimportant since the microscopic and macroscopic worlds are merely the same irregular, fragmented shapes of fractal geometry repeated at different magnifications). The 3 space dimensions of length, width and height plus the 4th dimension we call time are handled admirably by the doctors and nurses involved in any necessary surgery and followup medical treatment (their efforts are aided by eating well, sleeping well, doing daily exercises, not smoking etc.) The 5th dimension seems to be responsible for unification of the entire universe - a pursuit started in earnest with Einstein's attempt to find a "unified field theory" and

continued by scientists to this day (the best known modern contender would be physics' string theory). "Unify" means "make into one" or "form into a unit". So in a truly unified universe, there can be no distance between any physical or non-physical entities in space or time (otherwise, there would be more than one entity in the universe and it would not be unified). Thus, zero separation must exist between all things (this is similar to 2 objects which appear distant from each other on a huge computer screen actually being unified by the strings of ones and zeros making up the computer code which is all in one small place). Therefore, there is no separation between a person and health (or indeed, sickness). But the conscious mind can choose one or the other, and I choose to be healthy. Everything can be done perfectly in the first 4 dimensions but to be assured of the desired outcome, we must not ignore reality and the 5th dimension (of course, consciousness has its limits too and we have to let our unconscious minds guide us to health, just as our conscious minds alone have little to do with eg maintaining a normal heartbeat). Of course, all this could be dismissed and a person's health attributed to the placebo effect. But doesn't it make more sense to accept the wonders of a 5th dimension than to assume placebos can work actual miracles? (Or maybe these paragraphs merely attempt to detail how the placebo effect works?)

Albert Einstein's Theory of Relativity is a geometric description of the universe. This letter uses that geometry, aided by fractals, to support the conclusions in the paragraph above (a fractal is a geometric structure having an irregular or fragmented appearance which is of a similar character at all magnifications - the word "fractal" was coined in 1975 by French mathematician Benoit Mandelbrot). Following are a few lines on the

astronomical, the human (Einsteinian), and physics' string or superstring, magnifications -

Astronomy pictures space-time as 3+1 dimensions (space's length, width and depth + an extra dimension called time) existing on the surface of a balloon which is expanding but there is no centre to the universe from which that expansion originates i.e. the balloon must possess an inner "hyperspatial" point (not in space-time) where the Big Bang occurred. According to the 1973 book ALBERT EINSTEIN: CREATOR AND REBEL by physicist Banesh Hoffman and Einstein's secretary Helen Dukas, mathematical equations developed by Einstein in 1917 say a maximum of 3 "subuniverses" could exist in our cosmos: here, I'll refer to them as SPACE (embracing the 3 dimensions of length, width and height), TIME (the 4th dimension) and HYPERSPACE (the 5th dimension).

Astronomy's picture unites space and time into Einstein's space-time (and adds a 5th dimension, which was introduced in a letter to Albert Einstein written by Theodor Kaluza). He proposed that Einstein's dream of finding a unified theory of gravitation and electromagnetism might be realized if he worked his equations in five-dimensional space-time. Einstein scoffed at the idea at first but later reconsidered and helped Kaluza get his paper published. A few years after that, physicist Oskar Klein published a quantum version of Kaluza's work. In the 1970s, the resulting Kaluza-Klein theory turned out to be beneficial in working on supersymmetry (a postulated unifying relationship between elementary particles). The first paragraph stated, in a truly unified universe there can be no distance between any physical or non-physical entities in space or time (otherwise, there would be more than one entity in the universe and it would not be unified *). We can already travel in the 3 dimensions of ordinary space, so in a universe where all the dimensions form a unity, sooner or later we'll learn to travel in 4th dimensional space

(time) and 5th dimensional hyperspace. If we journey in these other dimensions, they must have spatial coordinates for us to navigate in (length, width and depth in time and 5D as well as familiar 3D - if we choose, we can therefore say the universe has 9 dimensions - and the zero separation unifying these 9 can be regarded as a 10th dimension).

* A few more details of the unification I envisage might be appropriate: the Grand Unified Theory sought by today's scientists and mathematicians aims at combining electromagnetism (the relations between electricity and magnetism) with the strong and weak nuclear forces of the subatomic world. Another step in unification would see this followed by the Unified Field Theory (begun by Einstein and continued today by string theory as well as other theories). Yet another step would be practical combination of unification not only with quantum mechanics and General Relativity but also with zero separation (first implicitly suggested in Special Relativity and elaborated on about 1980 by the American John Dobson - creator of the "Dobsonian" telescope mount and cofounder of the Sidewalk Astronomers Organization). If you're impatient, just remember that all the scientific and computing knowledge is united with us and has no separation from us right now – I'm sure people, being ingenious creatures, will gain access to it much sooner than expected (perhaps in years instead of centuries). And I'd expect this new science to reach into areas once reserved for religion and philosophy.

Relativity and fractals present us with a world and universe that are ultimately mathematical in nature. This lends credibility to what I said in the first paragraph about

zero separation existing between all things - "this is similar to 2 objects which appear distant from each other on a huge computer screen actually being unified by the strings of ones and zeros making up the computer code which is all in one small place" (this analogy also invokes mathematics ... maths of a binary nature). Thus, it appears reasonable to suggest the universe's fifth dimension truly could be the location of strings of ones and zeros creating unification and zero separation and that, as paragraph 1 states, "Everything can be done perfectly in the first 4 dimensions but to be assured of the desired outcome, we must not ignore reality and the 5th dimension".

Not having access to anything resembling a time machine so we can physically manipulate the 5th dimension, all actions utilising hyperspace in 2009 must be purely mental and based on unwavering belief in the existence of a 5th dimension. There is a technological approach which I'll now try to describe (however, this technology is not available in 2009) - Morpho butterflies create colour by selectively adding and deleting certain wavelengths of light. Physicists have only recently devised comparable materials, called photonic band-gap crystals; and are now exploring their use in phone switches, solar cells and antennas. No surprise, then, that some engineers are looking to the living world for the next generation of optic inspirations. I believe advances in engineering and biology will enable humans, like the morpho butterfly, to selectively add and delete certain wavelengths of light. But other portions of this book have shown how anything and everything can be regarded as light (by e.g. superimposing electromagnetic and gravitational waves). So the day will come when we can add or delete wavelengths anywhere we choose, and there will be absolutely no limits to what a human can do!

However, it is good to remember that we will never be gods or goddesses because the rest of the universe is also included in this unification. I anticipate people will oneday have band-gap structures in their brains that are no bigger than a computer chip (see “Gates>STARGATE” where it’s proposed that these won’t require surgical implantation because of the Quantum-Mechanical SuperComputing Network’s creation of the pre-existing digital nature of all parts of the universe). Photonic band-gap crystals would, of course, only deal with light in its photonic forms (energy forms such as visible light or radio waves). The band-gap structures I have in mind would need to deal with forms like matter, so they could add or delete anything and everything we choose. They might accomplish this by acting similarly to a modem that acts on a scale trillions of times smaller than a modem manufactured by nanotechnology, and would be capable of manipulating digitised matter. Then they could emulate computers’ copy/paste function to add things; as well as their delete function, to remove things. This ability must only come to fruition in a future, ideal society: it would only be wasted and abused in the present warring and selfish world! Despite this very short article not being written in mathematical equations and its conclusions seemingly not capable of being verified in a laboratory, our minds can use the unification of everything - including matter, mind and energy - to produce physical and reproducible results.

Tribute to Scientist Isaac Newton's Occult Studies (Studies of Hidden Knowledge)

(thanks to the 1988 book “Coming of Age in the Milky Way” by Timothy Ferris

for the detailed and inspiring account of Newton's life)

Isaac Newton (1643 – 1727), the noted British scientist and mathematician, wrote many works that would now be classified as occult studies. These occult works explored alchemy (both a philosophy and a practice with an aim of achieving ultimate wisdom as well as immortality, involving the improvement of the alchemist as well as the basics of modern chemistry) and Biblical interpretation (especially of the Apocalypse – translated from Greek, this actually means “unveiling or revelation at the end of the age or eon”). Newton's scientific work may have been of lesser personal importance to him, as he placed emphasis on rediscovering the occult wisdom of the ancients. In this sense, some have commented that the common reference a "Newtonian Worldview" as being purely mechanistic is somewhat inaccurate. After purchasing and studying Newton's alchemical works in 1942, economist John Maynard Keynes, for example, opined that "Newton was not the first of the age of reason, he was the last of the magicians." (from Wikipedia)

The immediate inspiration for writing this short article - Yesterday, I was thinking about the TV show “Merlin”. So I started reading about King Arthur in my encyclopedias. There was a comment that England's real-life king Henry II said, about 720 years ago, that he was descended from Arthur and even pointed out Arthur's burial spot. Well, this got me very excited and I spent the next 3 or 4 hours researching things about Henry, Arthur and the British Royals in books and on the Internet. Unfortunately, not enough information exists to prove that Arthur, Merlin and friends even existed (by the way, I found myself reading about a 1989 episode of Doctor Who in which the Doctor and

Merlin were linked).

The thoughts in "A New Earth and A New Universe" seem to link to Magic (magic in the sense of the paranormal) and to Isaac Newton, sometimes described as “one of the greatest names in the history of human thought” because of his great contributions to mathematics, physics and astronomy. Magic is neither good nor evil in itself - like anything, it can be used for good or evil purposes. In his essay “Magic, Science and Religion,” the Polish anthropologist Bronisław Malinowski (1884–1942) said Magic and science are both based on knowledge; magic is knowledge of the self and emotion, while science is knowledge of nature. The priority of "New Earth/Universe" is describing science and ultimate reality. Its goal is knowledge of the universe's, and of this world's, nature. The goal is not a merely personal one - which is where our priority would lie if we were seeking love and money, or the abilities to walk on water and become invisible. But since I speak of the universe as being a Unified Field embracing Zero Separation, it is inevitable that results could not be limited to the scientific goal but must also influence the self and emotion.

According to Wikipedia, the free Internet encyclopedia - "Adherents to magic believe that it may work by one or more of the following basic principles:

"Natural forces that cannot be detected by science at present, and may not be detectable at all. These magical forces are said to exist in addition to and alongside the four fundamental forces of nature: gravity, electromagnetism, the nuclear strong force and

nuclear weak force.

"Intervention of spirits similar to these hypothetical natural forces, but with their own consciousness and intelligence. Believers in spirits will often describe a whole cosmos of beings of many different kinds, sometimes organized into a hierarchy.

"A mystical power, such as mana or numen, that exists in all things. Sometimes this power is contained in a magical object, such as a ring, a stone or charm which the magician can manipulate.

"Manipulation of symbols. Adherents of magical thinking believe that symbols can be used for more than representation: they can magically take on a physical quality of the phenomenon or object that they represent. By manipulating symbols (as well as sigils), one is said to be able to manipulate the reality that this symbol represents."

The "natural forces (existing) alongside the four fundamental forces" is further explained by the following paragraph from "PS for medical and surgical folk - how physics' unified field theory and 5th dimension can produce physical and reproducible results":

* A few more details of the unification I envisage might be appropriate: the Grand Unified Theory sought by today's scientists and mathematicians aims at combining electromagnetism (the relations between electricity and magnetism) with the strong and weak nuclear forces of the subatomic world. Another step in unification would see this

followed by the Unified Field Theory (which adds gravity to the mix – it was begun by Einstein and is continued today by string theory as well as other theories). Yet another step would be practical combination of unification not only with quantum mechanics and General Relativity but also with zero separation (first implicitly suggested in Special Relativity and elaborated on about 1980 by the American John Dobson - creator of the "Dobsonian" telescope mount and cofounder of the Sidewalk Astronomers Organization). If you're impatient, just remember that all the scientific and computing knowledge is united with us and has no separation from us right now – I'm sure people, being ingenious creatures, will gain access to it much sooner than expected (perhaps in years instead of centuries). And I'd expect this new science to reach into areas once reserved for religion and philosophy.

"Spirits similar to these hypothetical natural forces, but with their own consciousness and intelligence" is further explained by this final paragraph in "Part 3 Into Paper Walls" -

Speaking of Intelligent Design - The concept of God intrigues me because I believe it's related to the nature of the universe. I believe everything in space and time is connected by infinitesimal pulses of energy that are many millions of times smaller than anything that even the most powerful microscopes can reveal (this is similar to the way everything on a computer screen is connected by pulses of electricity, and spacetime's energy pulses are the basic units constituting the motions or currents within what physicists call "heterotic superstring theory"). Maybe the "sea of energy" in the universe causes those qualities which churchgoers say are God's. These are qualities like being everywhere in

space-time (as well as outside space-time, in what I've referred to elsewhere as hyperspace), having unlimited power and knowing everything (the universe would be filled with something similar to advanced computers' Artificial Intelligence). This is what I call the "pantheistic" explanation of God - the "humanoid" one is that I'm certain humans will eventually be capable of creating universes, using presently-incomprehensible mental abilities, and genetically engineering themselves/travelling anywhere in space or time to establish colonies on other planets in the present, past and future. Maybe this 2nd explanation is a description of the word "Elohim" (a name used in the Old Testament for God) ... Elohim means the "plural majesty of the one God". In a cosmic unification, all of humankind would be a plurality constituting one being - but we could not say humans are God because the rest of the universe is also included in this plurality or unification. (God would have a personality because of the One Being's partially-human composition.) Speaking of "us" and "others" is simply a matter of convenience coz in reality, everyone springs from the one source - the software behind the universal and megauniversal hologram; and Hindu Tantrism would correctly state that unity of the worshipper with the worshipped is ultimately achieved.

(to briefly refer back to Wikipedia - the English occultist Aleister Crowley (1875-1947) said a certain amount of concentration or meditation will produce "an occurrence in the brain characterized essentially by the uniting of subject and object." This reminds us of Tantrism's uniting the worshipper and worshipped, as well as of uniting Malinowski's magical knowledge of the self and emotion with science's knowledge of nature.)

The "mystical power, such as mana or numen, that exists in all things" is further

explained by the following paragraph in “Part 3 Into Paper Walls”) -

The Universe is the sum of everything that has ever, or will ever, exist ... integrated into an eternal present where everything exists right now. If humans were the eternal present, nothing from what we think of as "out there" could stimulate our brain cells and make us conscious. But we have our place - we are capable of learning and improving ourselves, and we have individuality in our “second” world with brains that can become conscious of the “first” (holographic) world. Each piece of a hologram stores information about the whole image – so every piece of the Universe (whether a president, a housewife, a member of any particular religion, an atheist, a galaxy, an atom, a grain of sand ...) contains information about the whole Universe at every stage of its being and is an indispensable part of that being.

"Adherents of magical thinking believe that symbols can be used for more than representation" is further explained by the following paragraph from “How physics' unified field theory and 5th dimension can produce physical and reproducible results” -

Relativity and fractals present us with a world and universe that are ultimately mathematical in nature. This lends credibility to what I said in the first paragraph about zero separation existing between all things - a state of being similar to 2 objects which appear distant from each other on a huge computer screen actually being unified by the strings of ones and zeros making up the computer code which is all in one small place (this analogy also invokes mathematics ... maths of a binary nature). Thus, it appears

reasonable to suggest the universe's fifth dimension truly could be the location of strings of ones and zeros creating unification and zero separation and that, as paragraph 1 of “PS for medical and surgical folk” states, "Everything can be done perfectly in the first 4 dimensions but to be assured of the desired outcome, we must not ignore reality and the 5th dimension".

(According to New Earth/Universe, mathematical and geometric symbols - originating in the 5th dimension; pervading all spacetime in the zero-separation unified field - do not simply represent objects but they actually emerge as time and space i.e. they "take on a physical quality of the phenomenon or object". And according to U.S. cosmologist Max Tegmark, mathematical formulas create reality - he says in a 2008 interview with theoretical astrophysicist Adam Frank, "I got excited about the idea that the universe is really nothing more than a mathematical object. That got me thinking that every mathematical object is, in a sense, its own universe." When his paper regarding this was submitted to a scientific journal and rejected as being too speculative, he showed the rejection letter to his friend John Wheeler (1911-2008), a Princeton theoretical physicist. Wheeler said, “Extremely speculative? Bah!” Then he reminded Tegmark that some of the original papers on quantum mechanics were also considered extremely speculative.)

Personalising A New Earth and A New Universe

As an example of personal, practical application; I'll speak of an event which people

commonly assume to be, in some degree, hopeless - and which makes them feel, to some extent, helpless (the example is life-threatening illness).

Unity

We'll start by recalling the part of this book where it's claimed that the universe and megauniverse possess the same properties as a subatomic particle.

To refresh your memory, here are some lines from there -

“... unconventional US cosmologist Max Tegmark says "You are made up of quantum particles, so if they can be in two places at once, so can you." We can say "The universe is made up of quantum particles, so if they can be in two places at once, so can the universe." There need not be any such thing as parallel universes, however. The universe's being in two places simultaneously could mean it's in the same space-place as any or all of its particles. It could also be in the same time-place as any or all of its earlier or later selves because there can be no space without time).”

AND

“If we look closely at the universe by not restricting it to the classical physics which preceded the quantum principle, we can comprehend how the macroscopic universe could behave quantum mechanically and violate classical physics.”

AND

“But I do believe – it stirs my blood! – in the “exquisite conjectures” of the universe (and the infinite Cosmos) behaving like an elementary particle, and of these two combining to

form one unified field.”

(Especially stirring is the exquisite conjecture of the whole megauniverse occupying the same space as each one of its constituent subatomic particles, and the same time as all its former and future versions!)

Emotion

If this emotional approach to overcoming illness does not sound possible to you, please consider the (unavailable in this century) technological approach using band-gap crystals which was addressed in “Outline”, “Let It Be” and “PS for Medical and Surgical Folk”.

This is absolutely essential if we are to fully identify with the concept of cosmic unity. And such identification with Unity is absolutely necessary if we are to successfully establish and maintain a healthy, disease-free body. Everyone has an incredibly powerful urge to survive but we cannot simply have an emotional response for the sake of having one. This would be uncontrolled and result in panic, anxiety, depression and INEFFECTIVENESS. We need to coolly and logically direct our will to live into, to quote from Aleister Crowley in “Tribute to Scientist Isaac Newton's Occult Studies”, "an occurrence in the brain characterized essentially by the uniting of subject and object" (in this case, by the uniting of the patient and health). Being cool and logical is a tall order if you're feeling hopeless and helpless, but never fear - there is a solution.

We must understand that "... consciousness has its limits too and we have to let our unconscious minds guide us to health, just as our conscious minds alone have little to do

with eg maintaining a normal heartbeat." (from "How physics' unified field theory and 5th dimension can produce physical and reproducible results"). Letting our unconscious minds guide us to health is the same thing as letting our future selves guide us to health. If you've read the previous parts of this book, you should comprehend (if my ideas are correct, and explained well) that you indeed have future selves who know how to guide your present self to health even if you have no idea how to do it or don't even believe any of this book. Since everything is a unity, nothing separates the present self from future selves or any living or nonliving thing (in the present, future or past). This makes it possible to return not only yourself but any person (anywhere or anywhen) to perfect health.

But we know people have died and are still dying, so it's vital to remember that "... the universe's fifth dimension truly could be the location of strings of ones and zeros creating unification and zero separation ..." (see previous article). Everyone and everything is ultimately a product of this programming and, although the 5th dimension could never exist except for us and everyone else throughout time, we must not forget that personal endeavours of any sort can only achieve success if that 5-D programming permits it. If somebody is meant to get sick or die, for example, nothing and nobody can prevent it. If it's not inevitable, you can stop it from happening (not by relying only on yourself and the 5th dimension, but by also gladly accepting any additional assistance you can find in this zero-separation unification e.g. that of doctors, nurses, vitamins, herbs, exercises, rest and sleep ...). But if it is inevitable, never forget what this book said earlier - "everyone who has long since died could have their minds downloaded into reproductions of their bodies

and be resurrected” and “the Universe will freely give eternal life to every human (and non-human) that was or will be an essential part of its being i.e. to every (life), without a single exception”.

Belief

We simply have to possess faith in the universe - scientific faith - and believe (along with having emotion that stirs the blood!) in the “exquisite conjectures” of the universe behaving like an elementary particle, of these two combining to form one unified field, and of the whole megauniverse occupying the same space as each one of its constituent subatomic particles as well as occupying the same time as all its former and future versions. I can imagine how impossible these things must appear, but remember that they are not merely conjecture. Modern scientific experiments have repeatedly confirmed the very strange ideas of quantum mechanics - ideas such as entanglement and what quantum mechanics says about subatomic particles communicating instantaneously across the universe or experiencing the whole universe in their existence. This almost-incomprehensible strangeness of the world and universe we live in is supported by zero-separation and the plausible mechanism of explaining quantum mechanics/zero separation referred to as “the 5th dimension’s unifying strings of ones and zeros”.

Science is searching for a method of reconciling quantum physics with the classical physics we’re familiar with i.e. reconciling our universe’s Underlying Existence with the world we see, hear, touch, taste and smell. In our daily lives, there is absolutely no need

to ever suspect there is more to the world than what our bodily senses perceive (or what our scientific instruments tell us). But modern science is confronting us with the inescapable conclusion that there truly is so much more (instruments and experiments alone can never reveal the nature of that “more” since they are, in the end, merely extensions of our limited senses). The interpretation of “subatomic particles communicating instantaneously across the universe” as “experiencing the whole universe in their existence” fits in well with the above paragraph’s statement “of the whole megauniverse occupying the same space as each one of its constituent subatomic particles as well as the same time as all its former and future versions” (there can be no space without time). With faith as a mustard seed (a small seed which produces a fast-growing, large plant), you can manipulate 5th-dimensional hyperspace and the universe's zero-separation unification to scientifically create magic!
